



FIG. 1

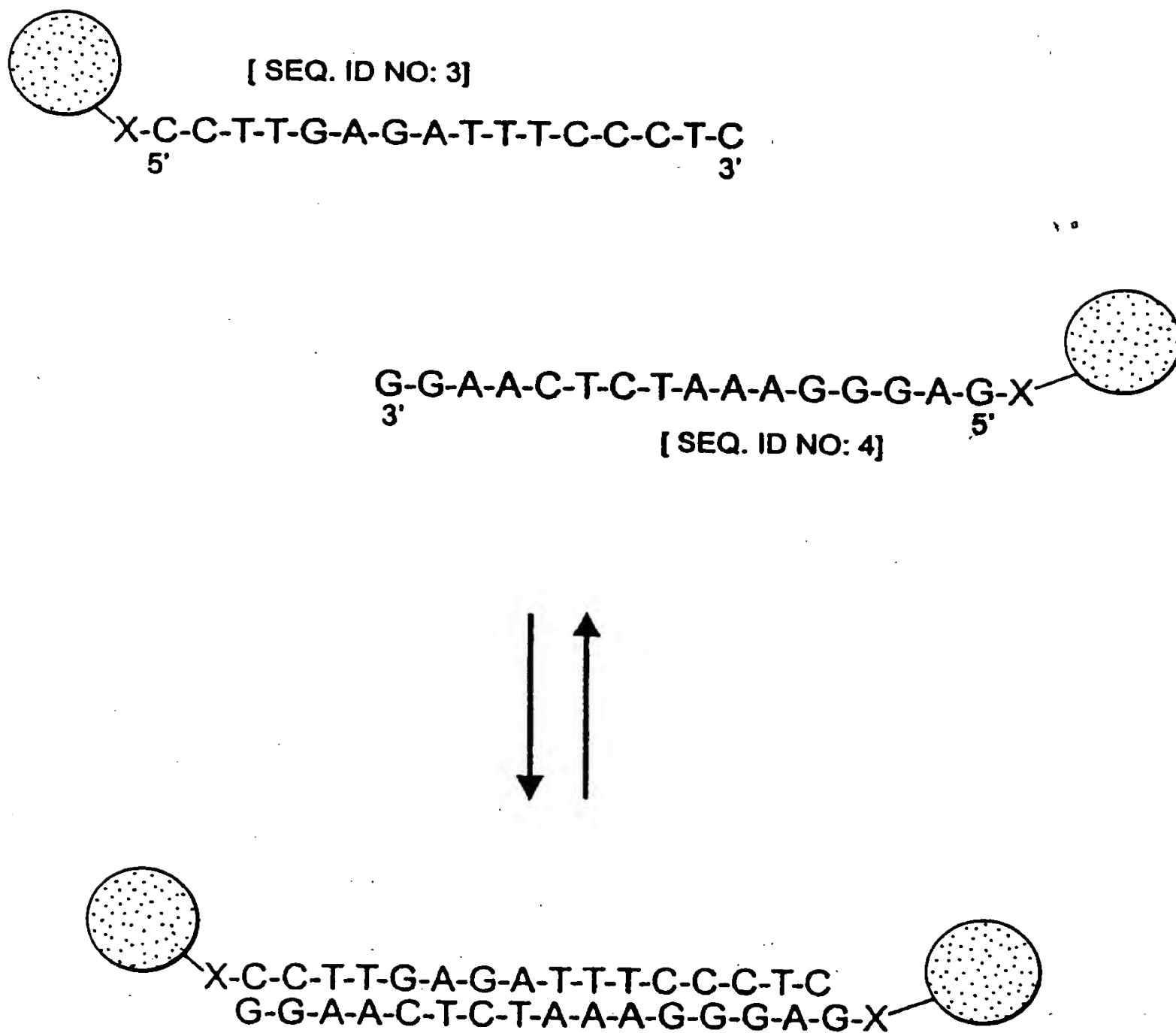


FIG. 2

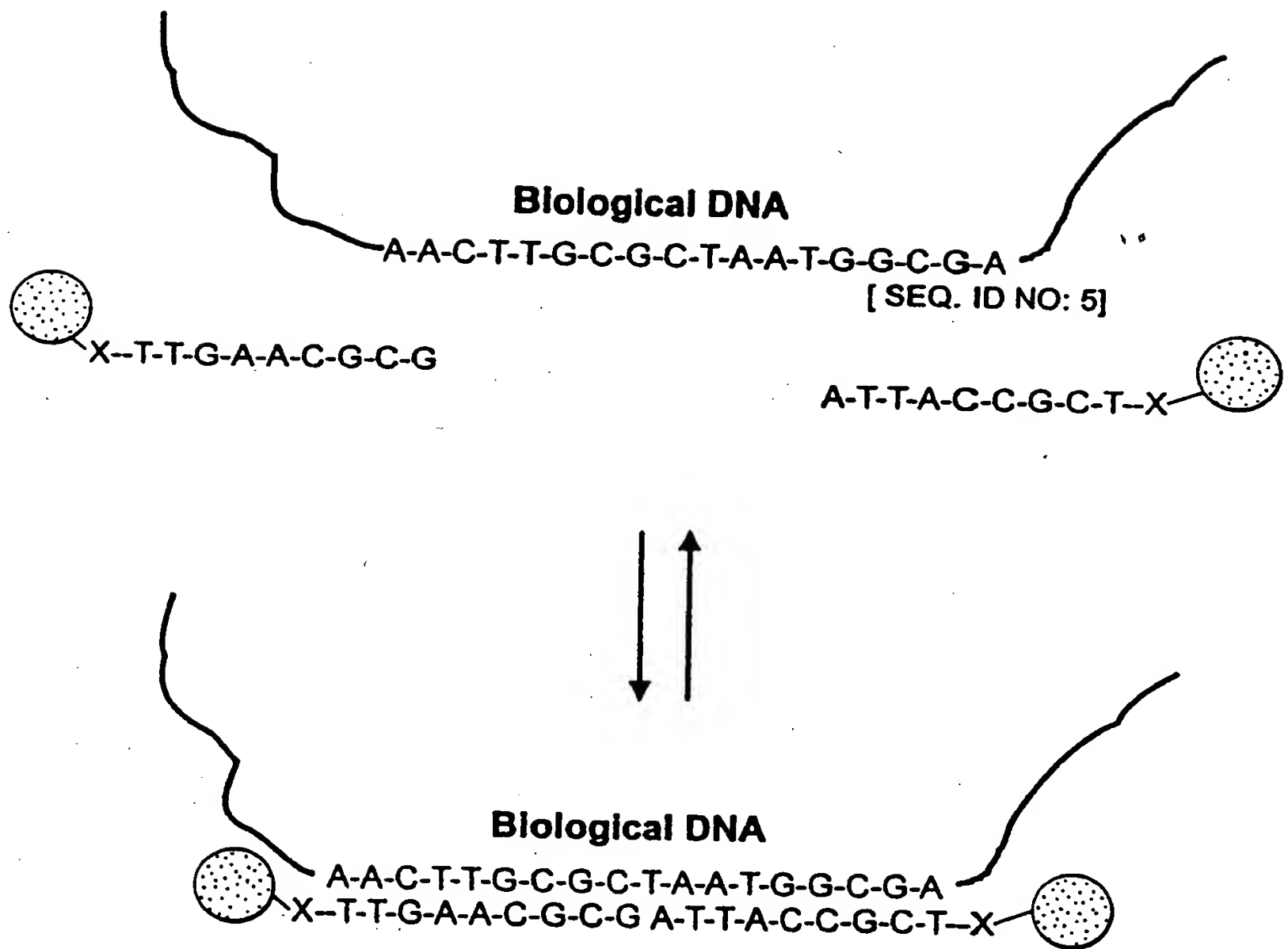


FIG. 3

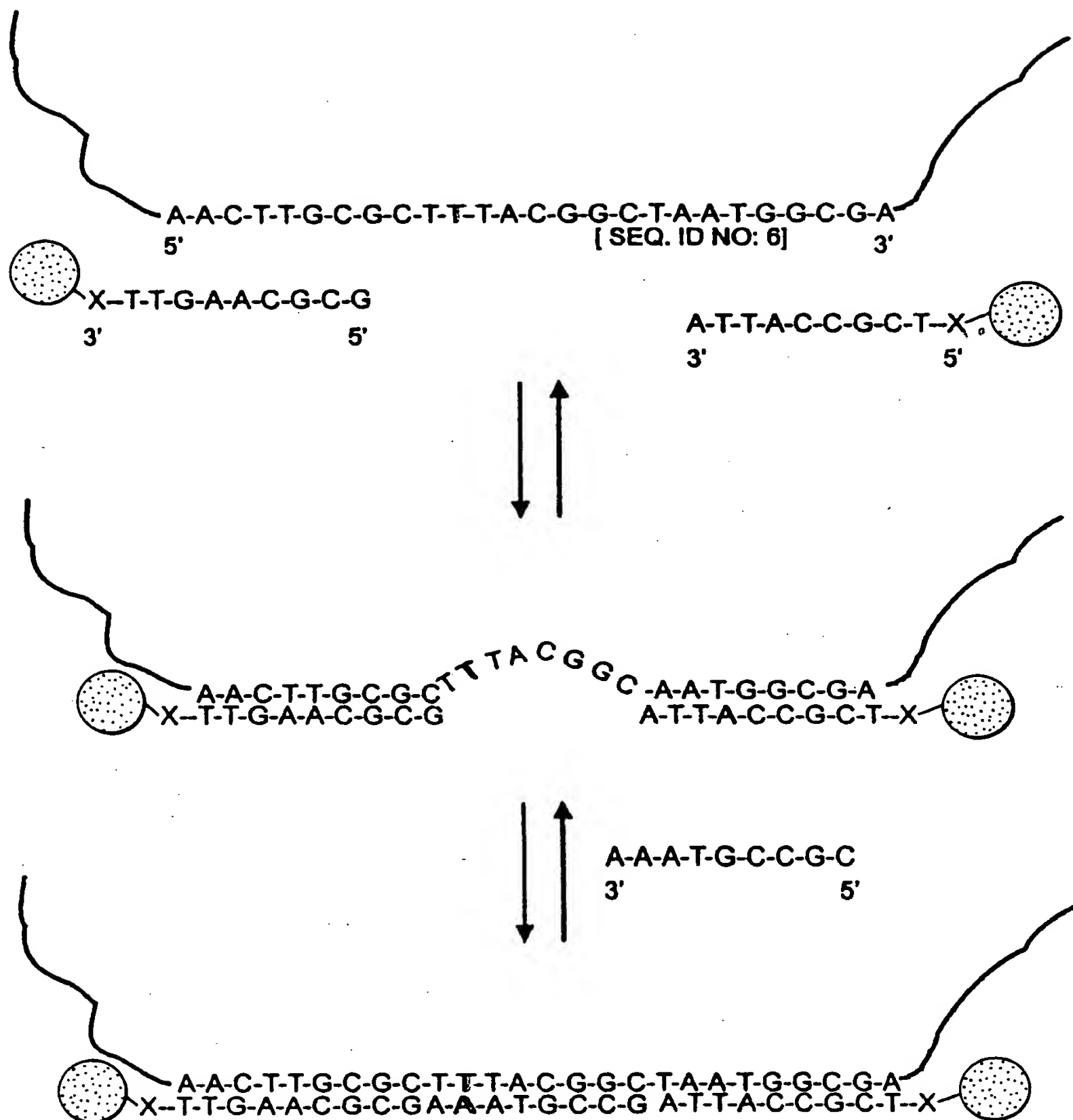
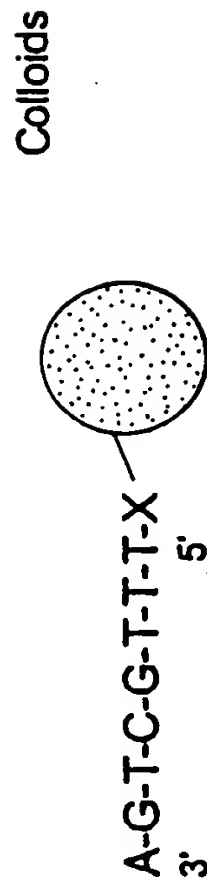
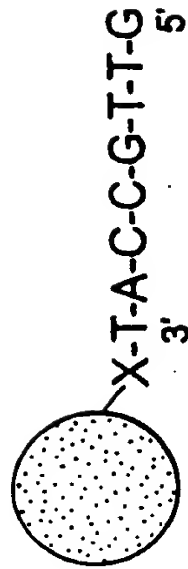
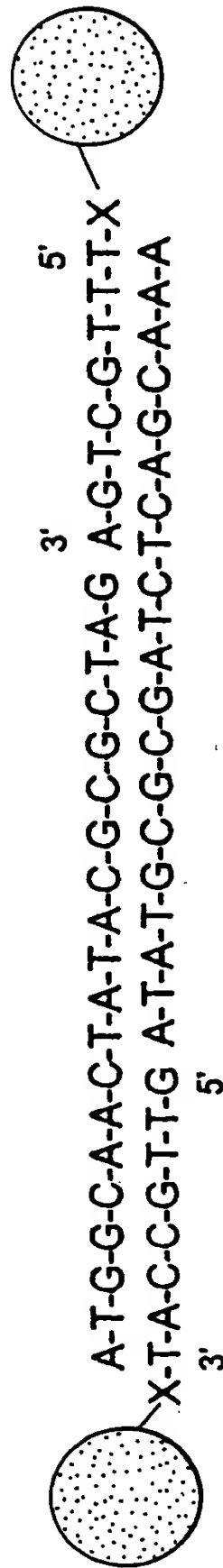


FIG. 4

5' A-T-G-G-C-A-A-C-T-A-T-A-C-G-C-G-C-T-A-G 3' Linking oligonucleotide
 [SEQ. ID NO: 2] A-T-A-T-G-C-G-C-G-A-T-C-T-C-A-G-C-A-A-A 5'
 [SEQ. ID NO: 1]



Heat Mix below T_m



Heat Stand below T_m

Precipitate (formed by further cross-linking)

FIG. 5

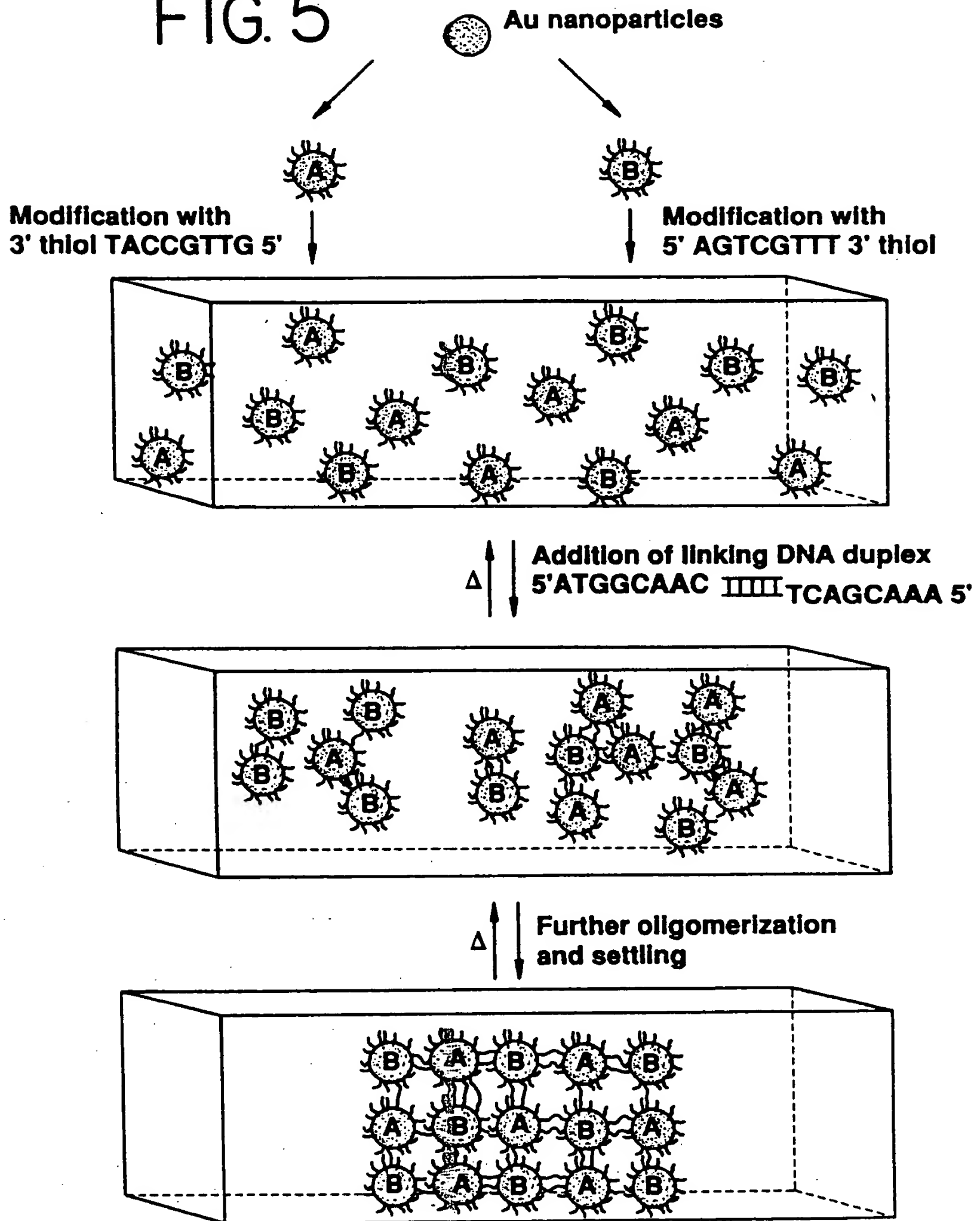
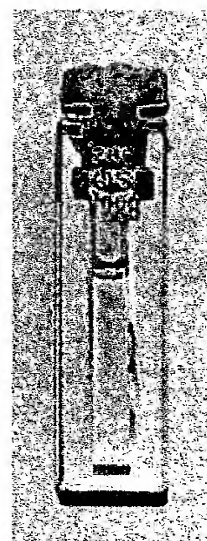


FIG. 6A FIG. 6B FIG. 6C



BEST AVAILABLE COPY

FIG. 7

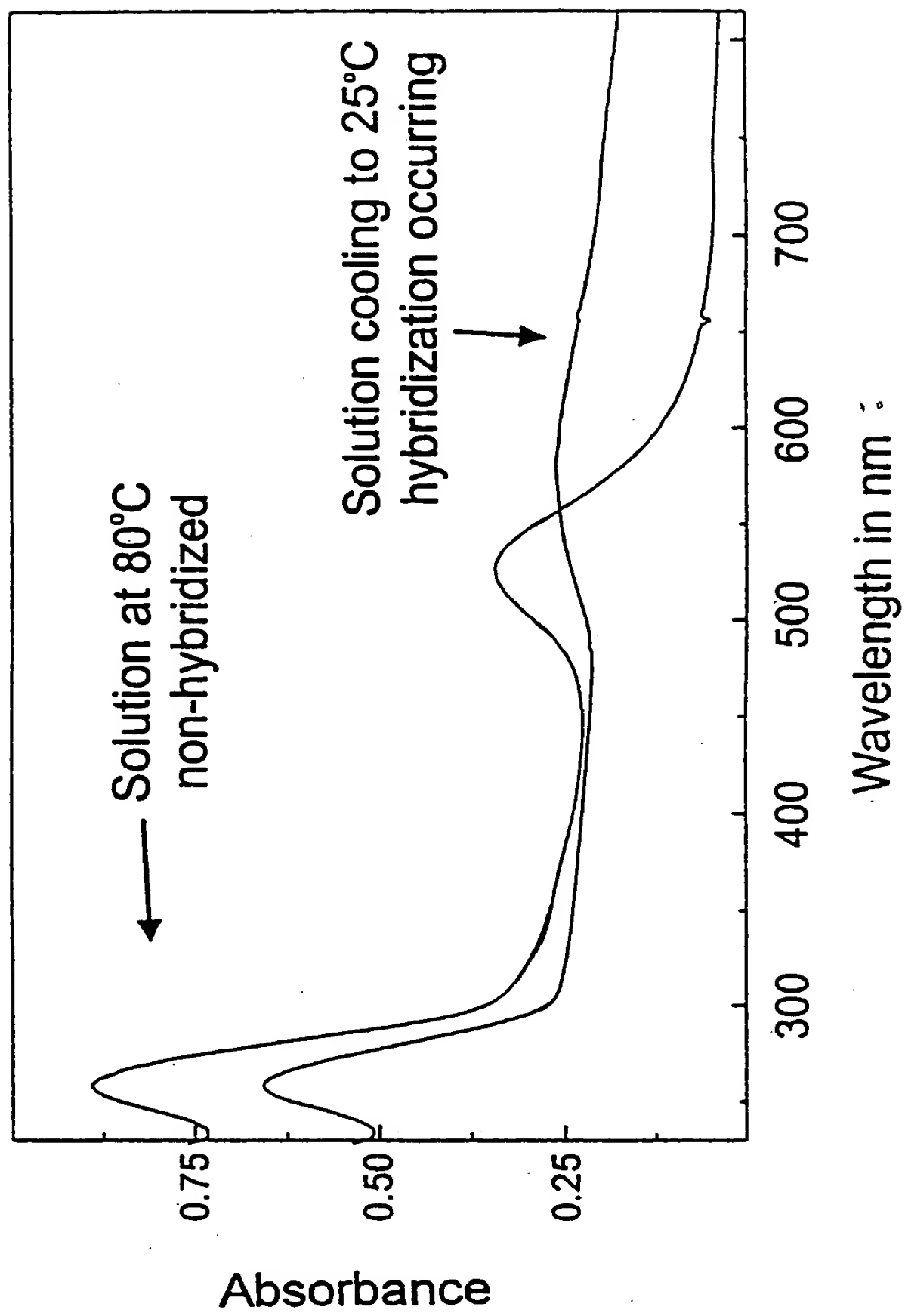


FIG. 8B

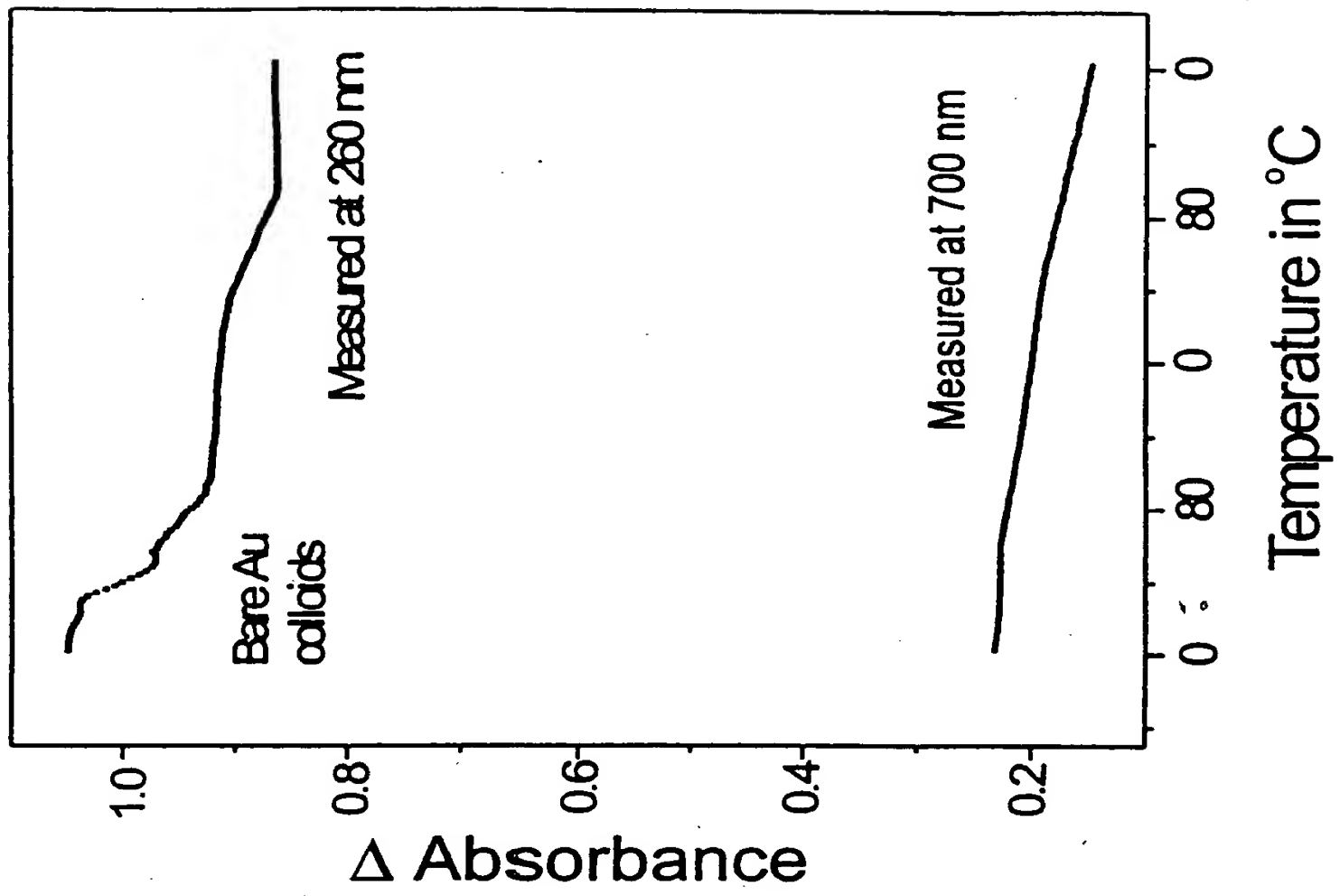


FIG. 8A

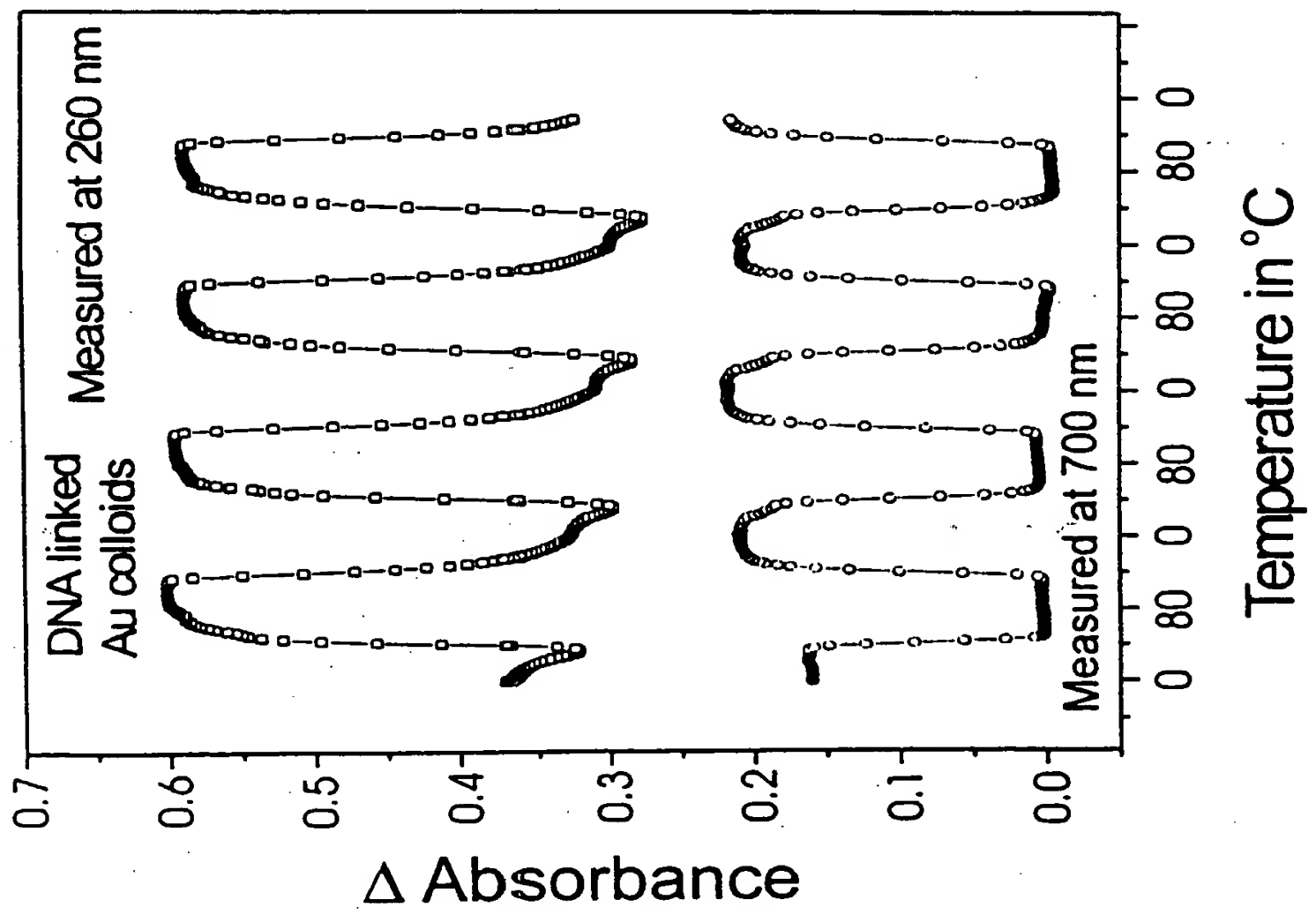


FIG. 9A

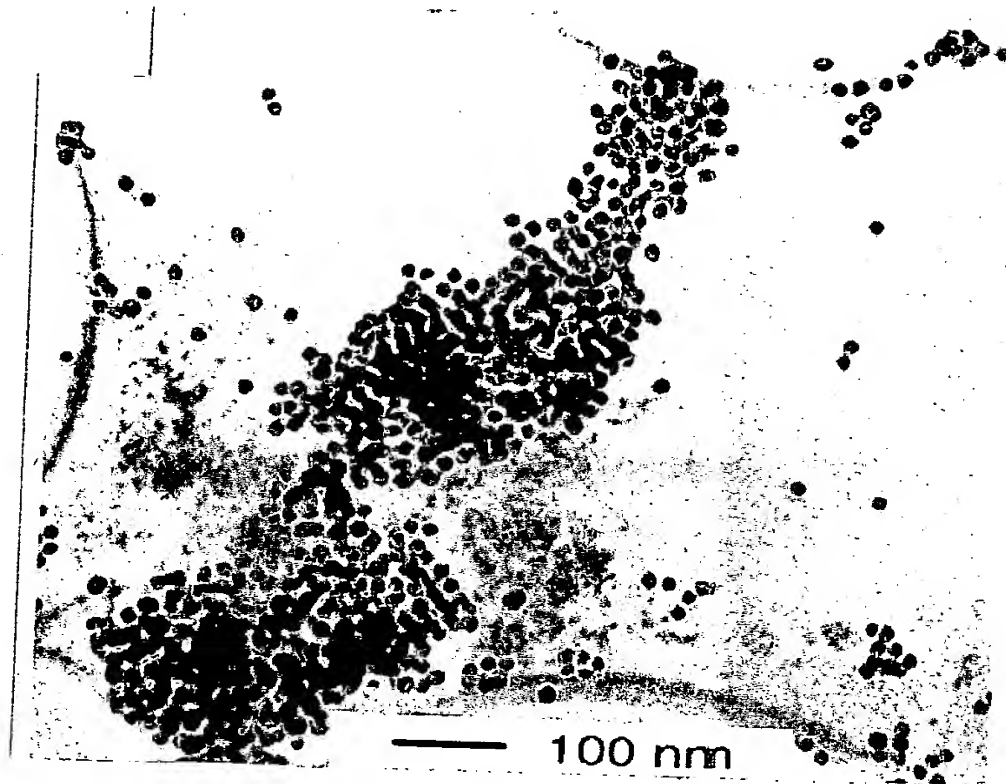
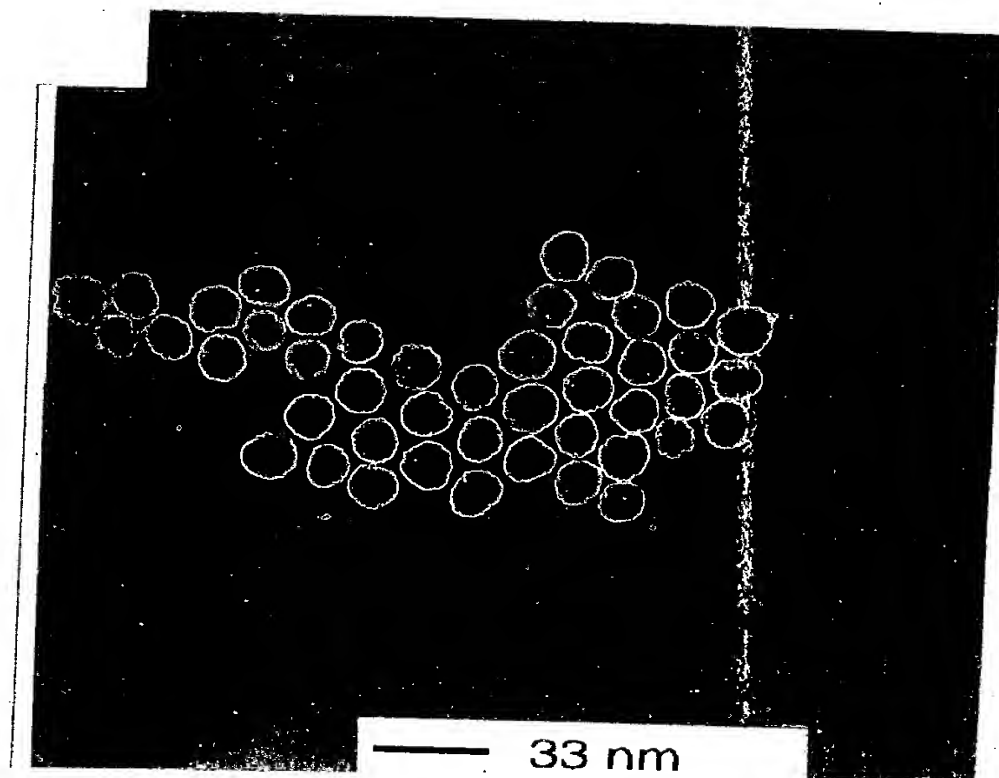


FIG. 9B



BEST AVAILABLE COPY

FIG. 10

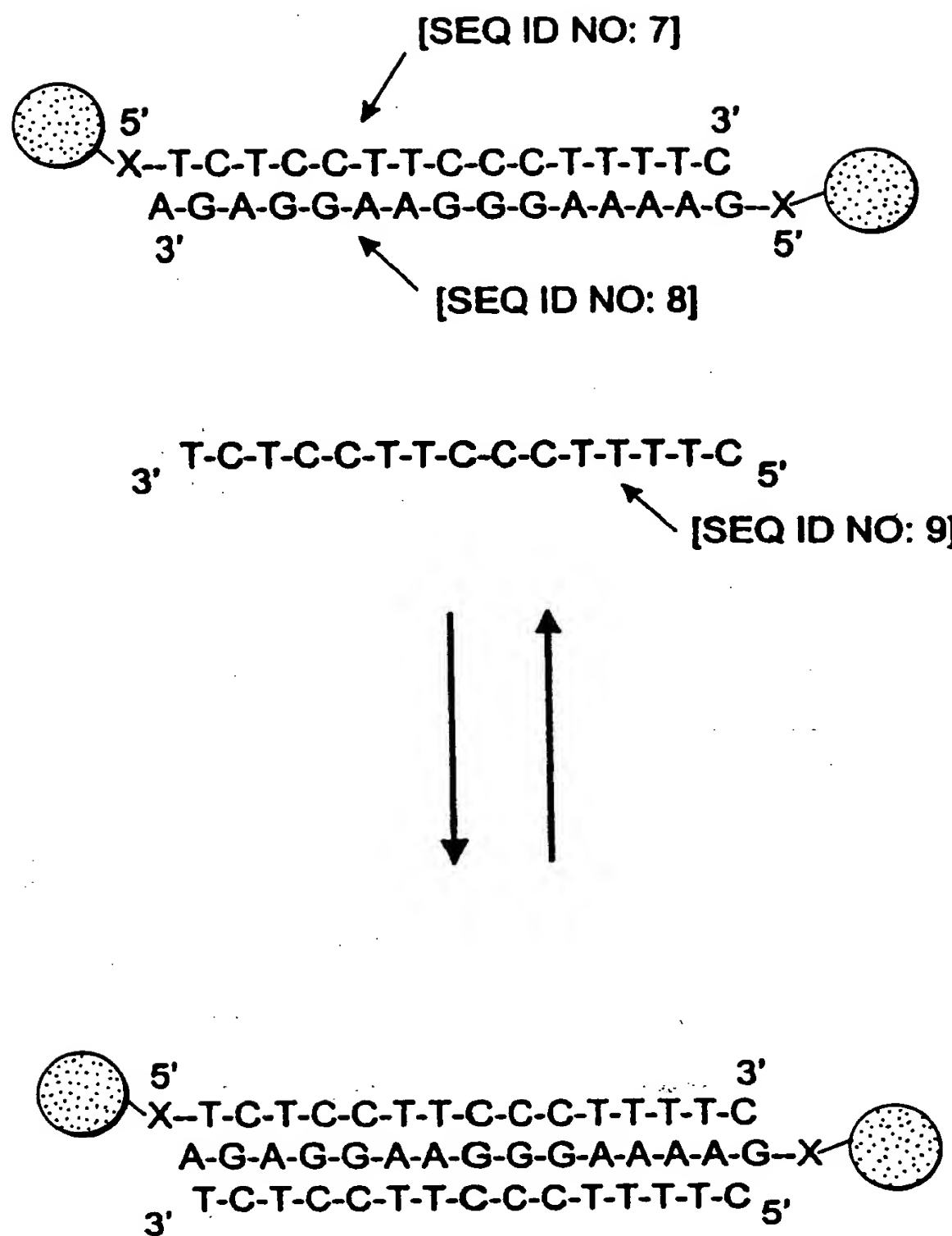


FIG. 11

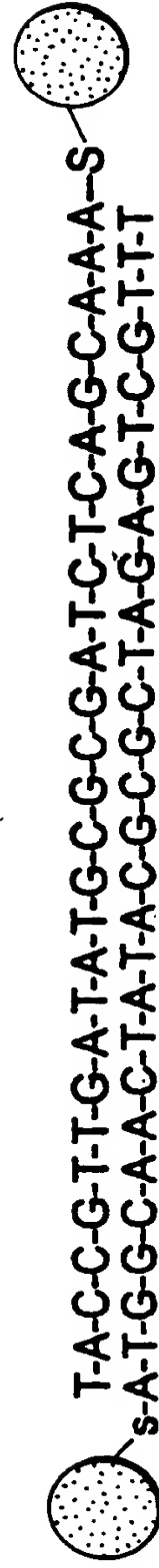
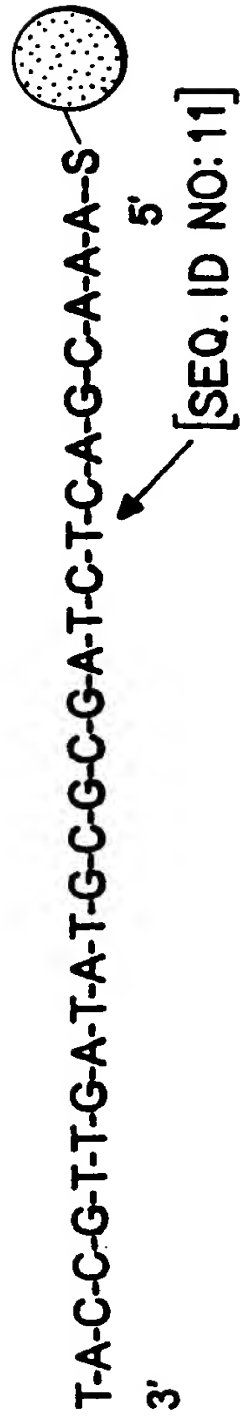
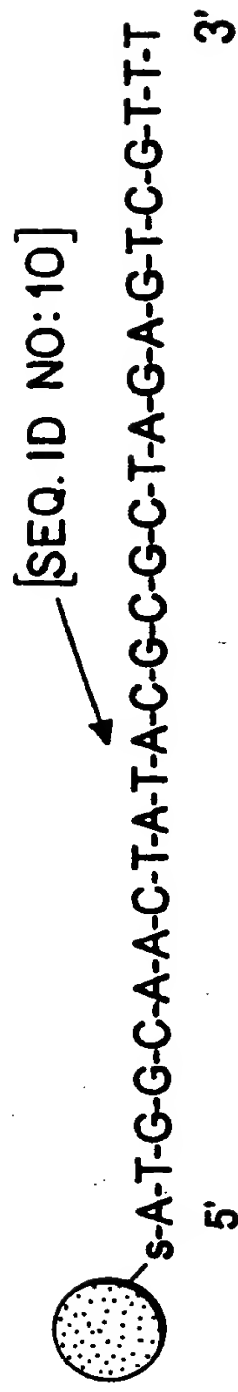


FIG. 12A

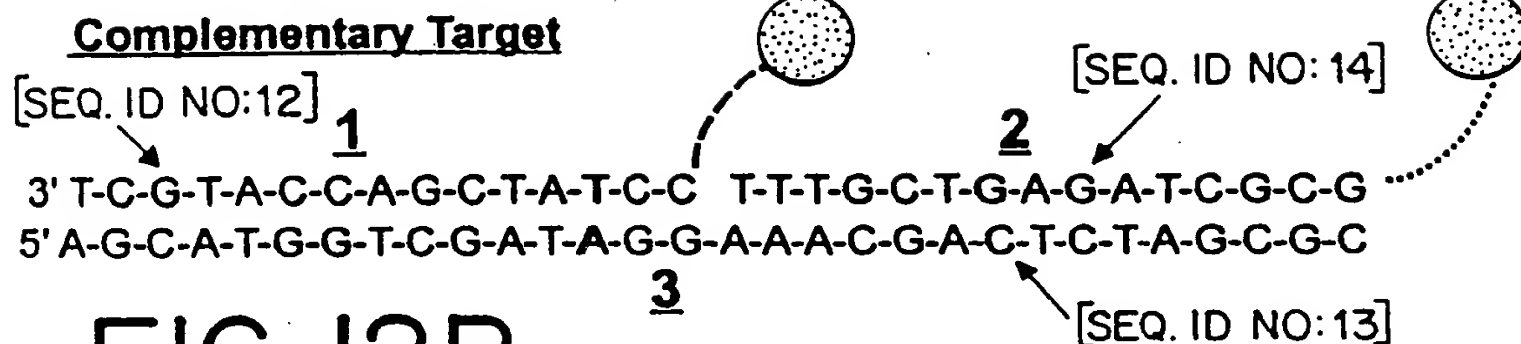


FIG. 12B

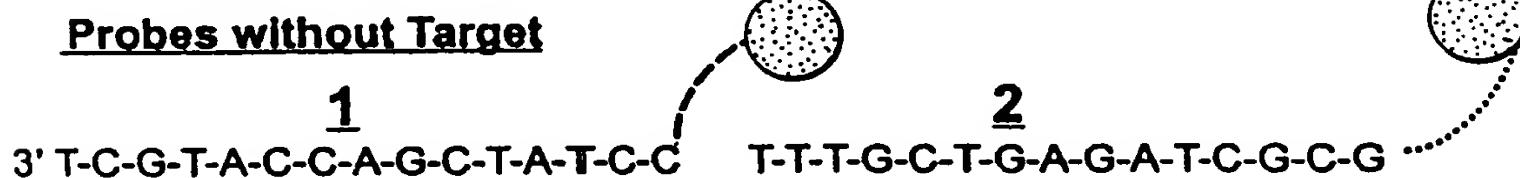


FIG. 12C

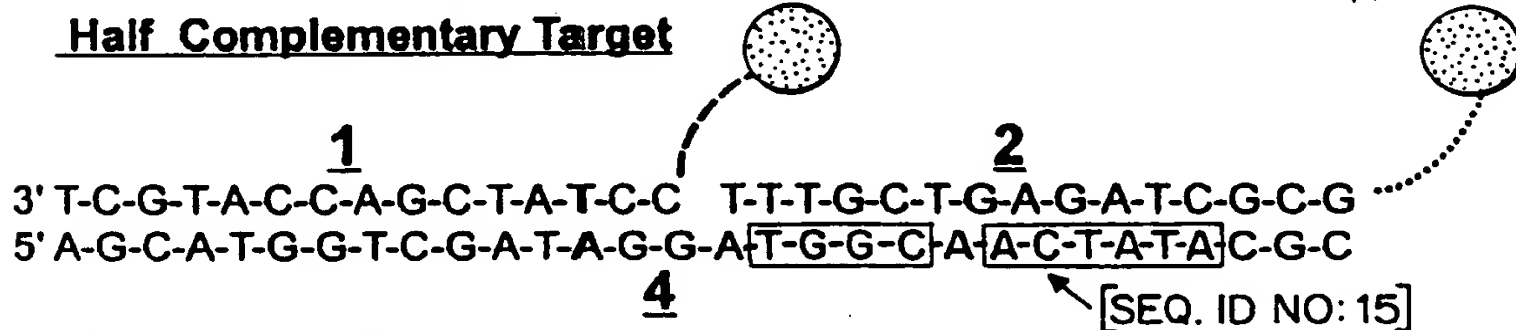


FIG. 12D

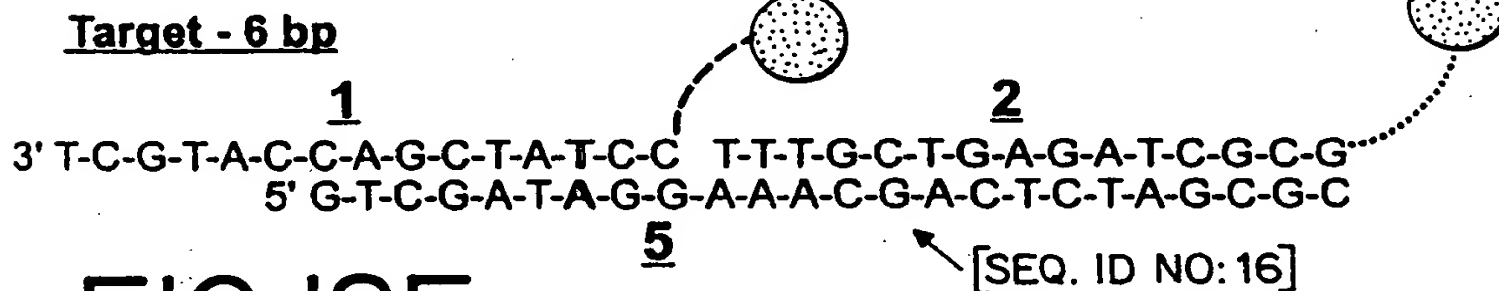


FIG. 12E

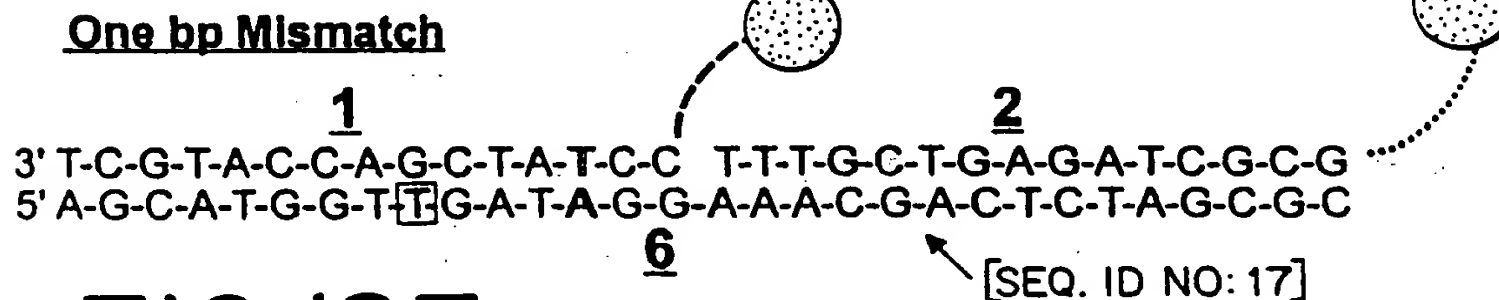


FIG. 12F

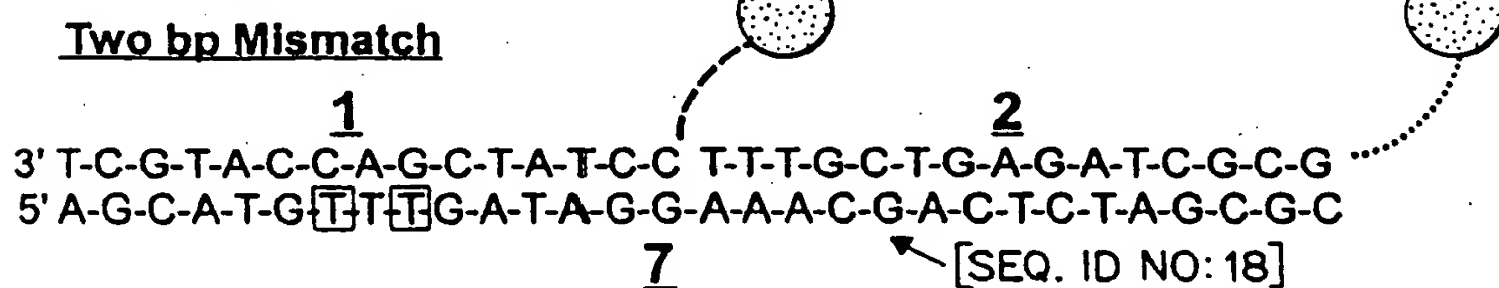


FIG. 13A

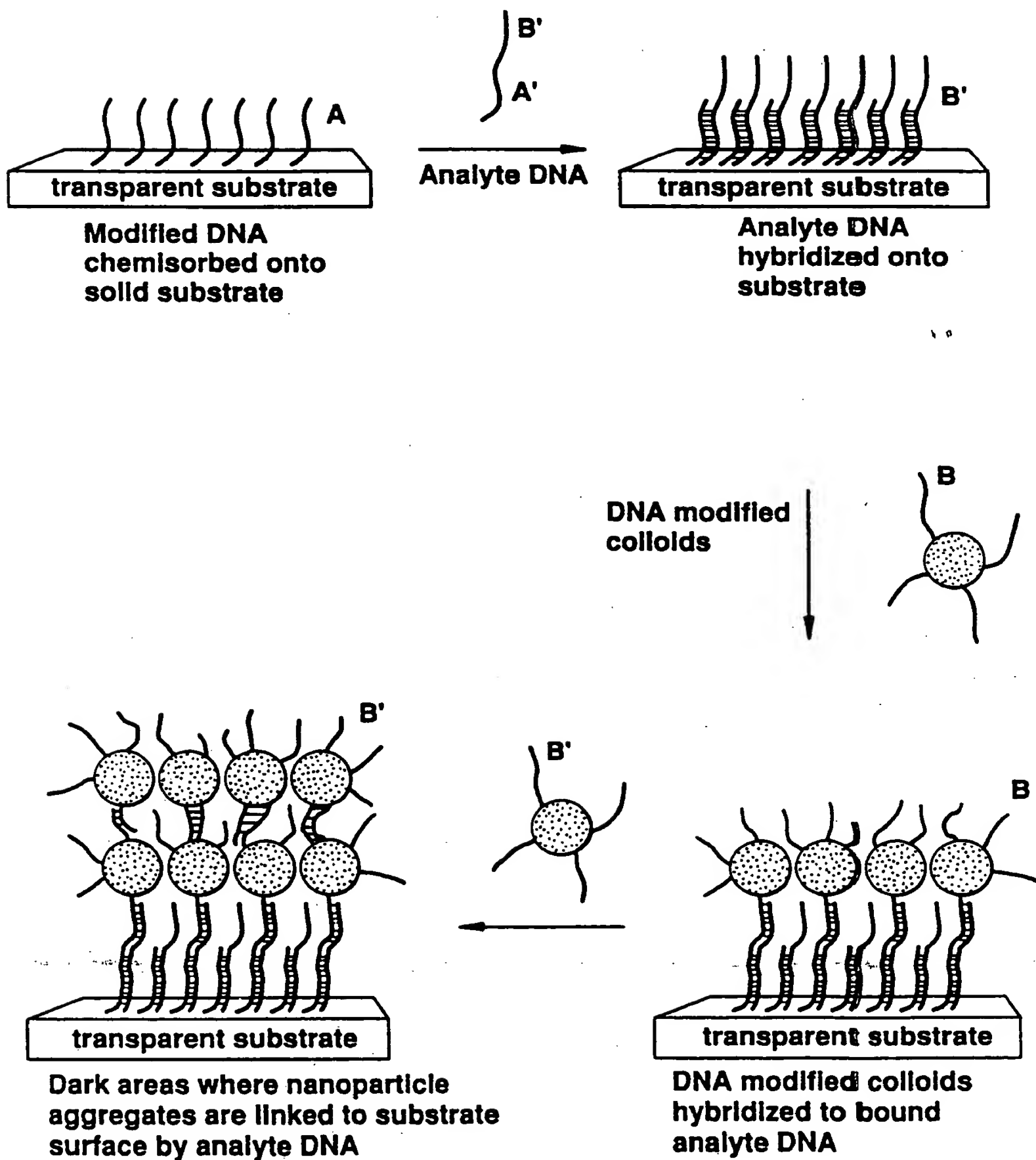


FIG. 13B

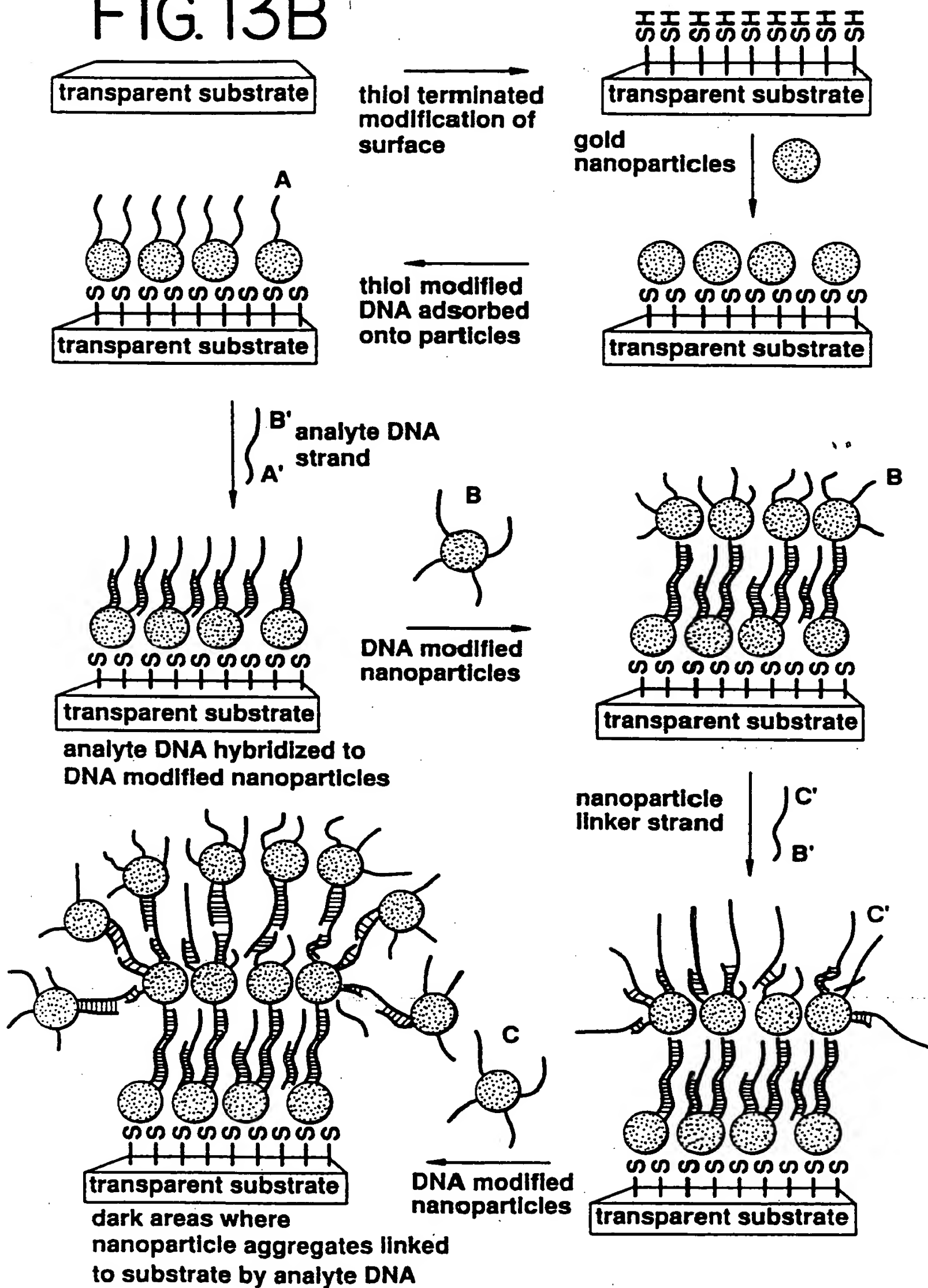


FIG. 14A

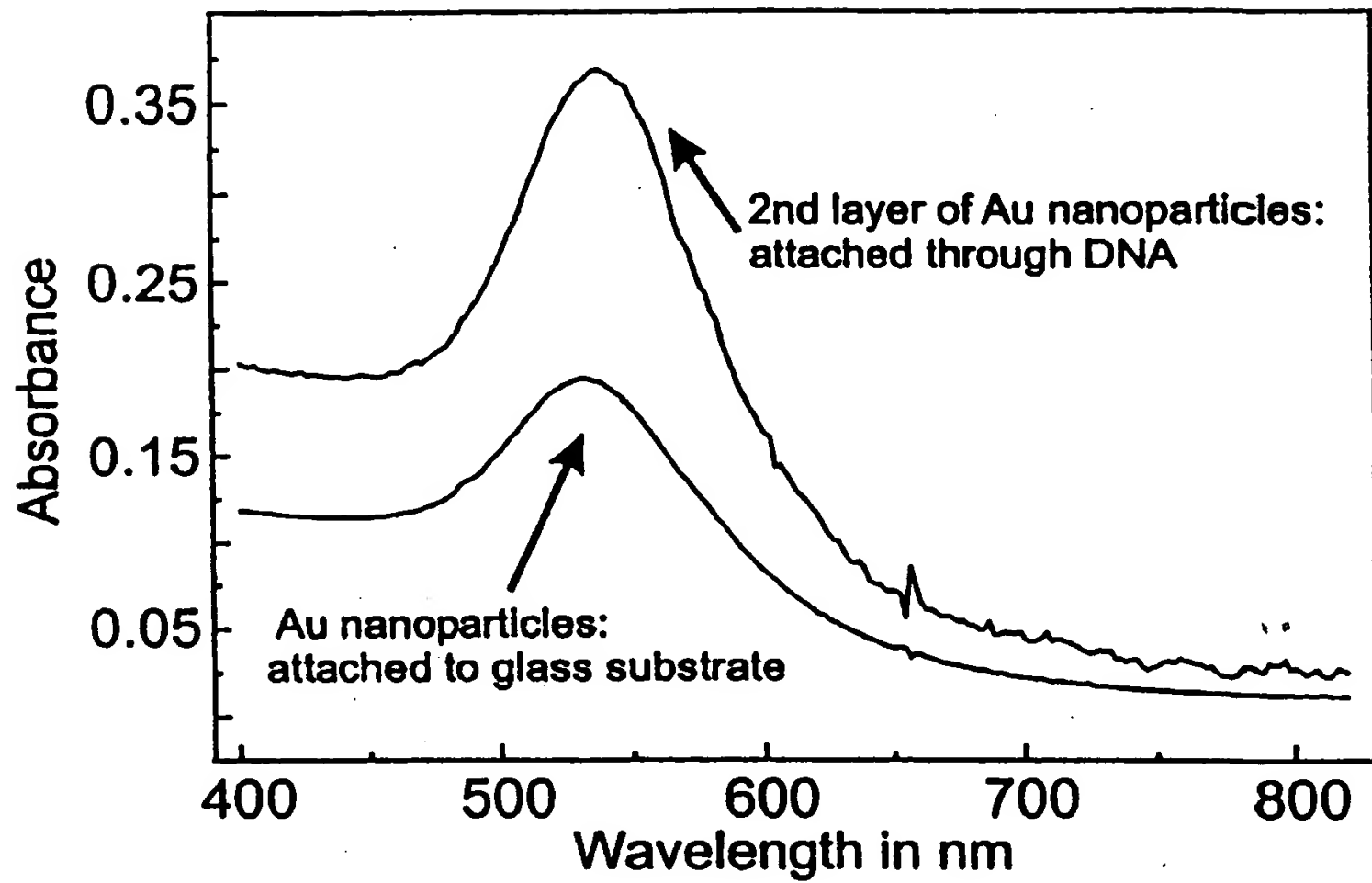


FIG. 14B

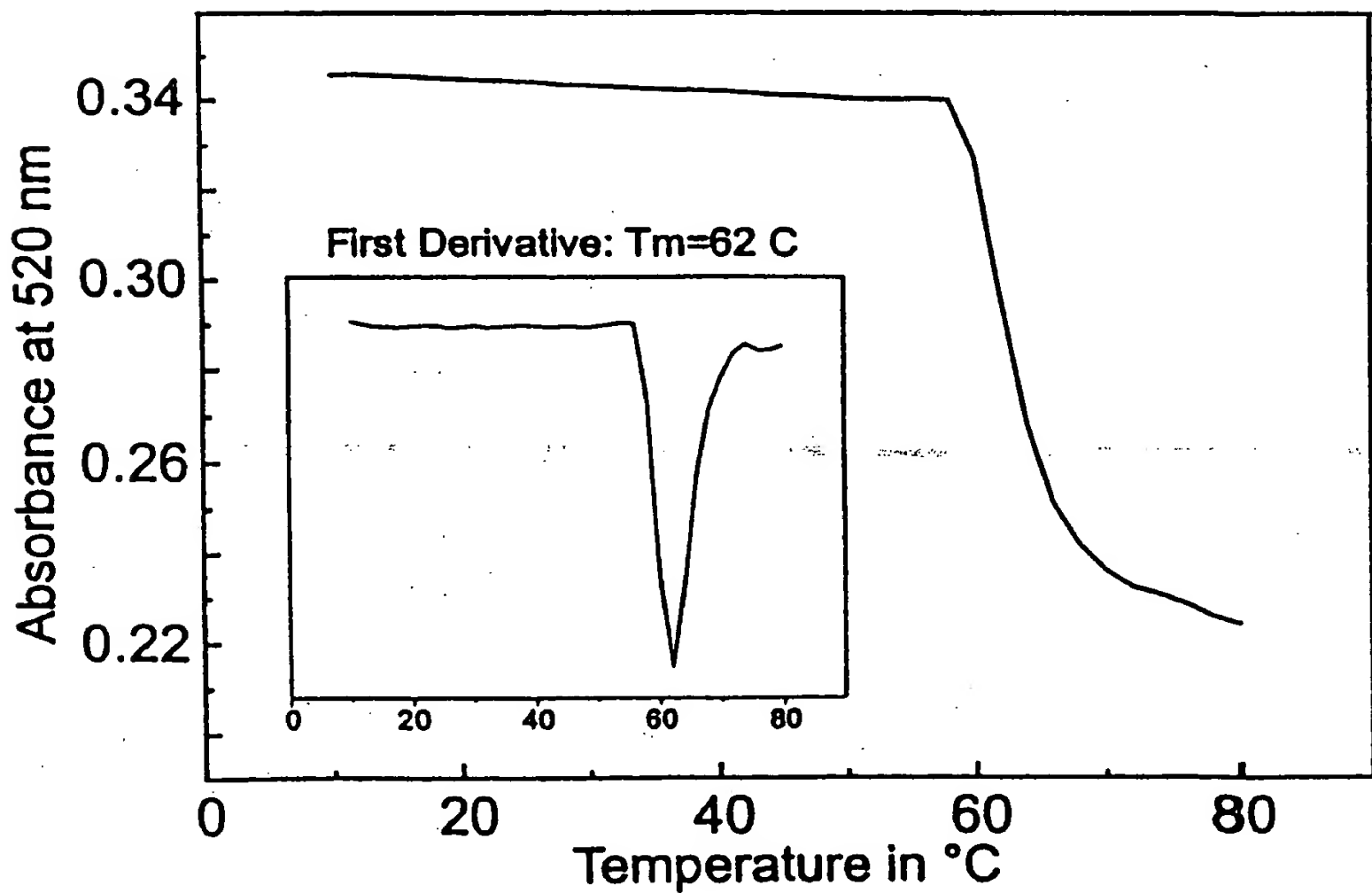


FIG. 15A

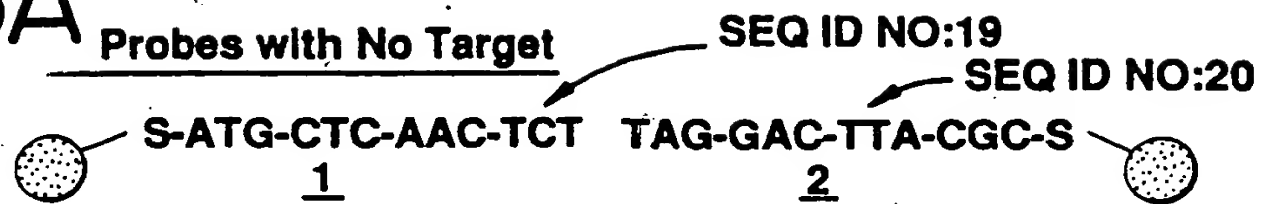


FIG. 15B

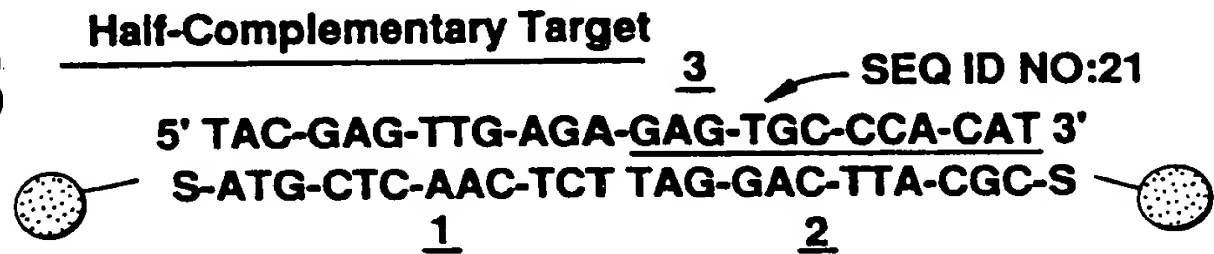


FIG. 15C

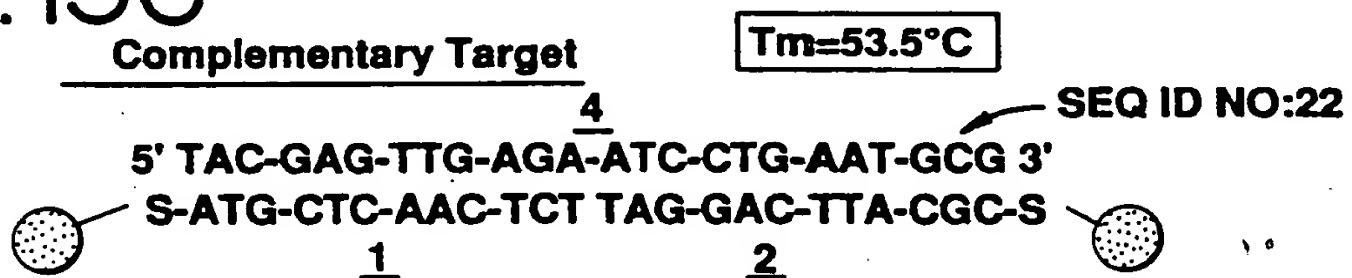


FIG. 15D

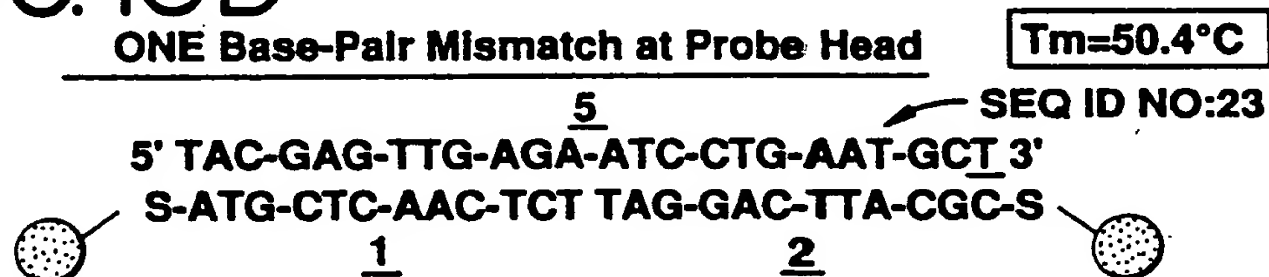


FIG. 15E

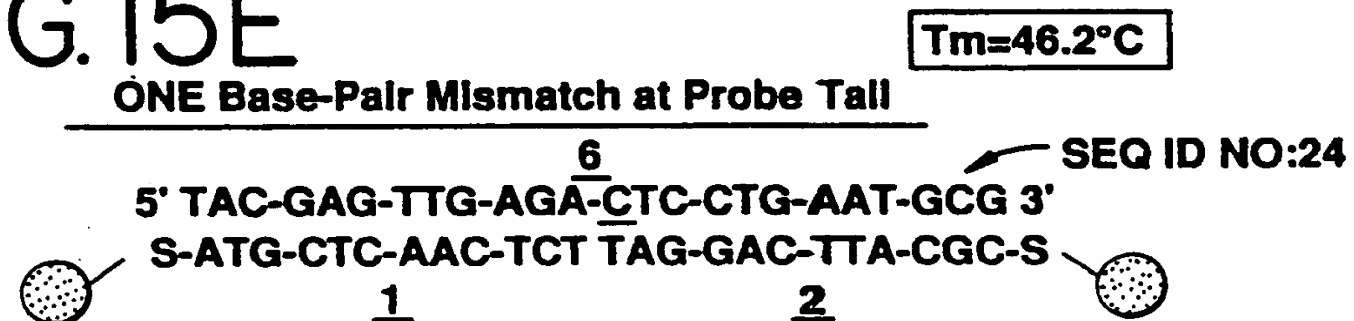


FIG. 15F

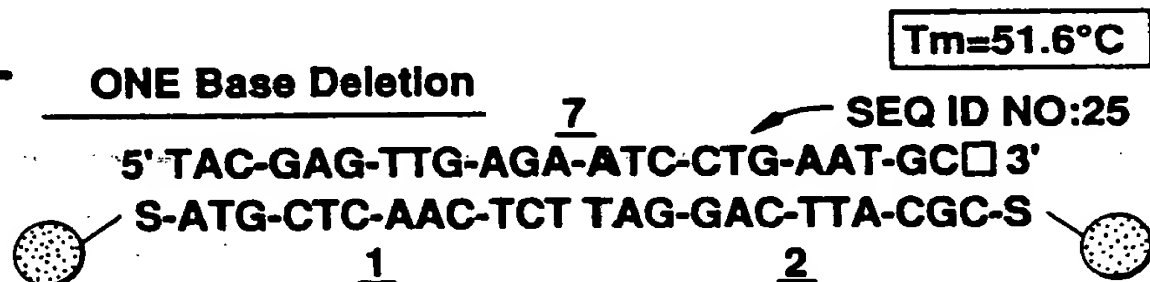


FIG. 15G

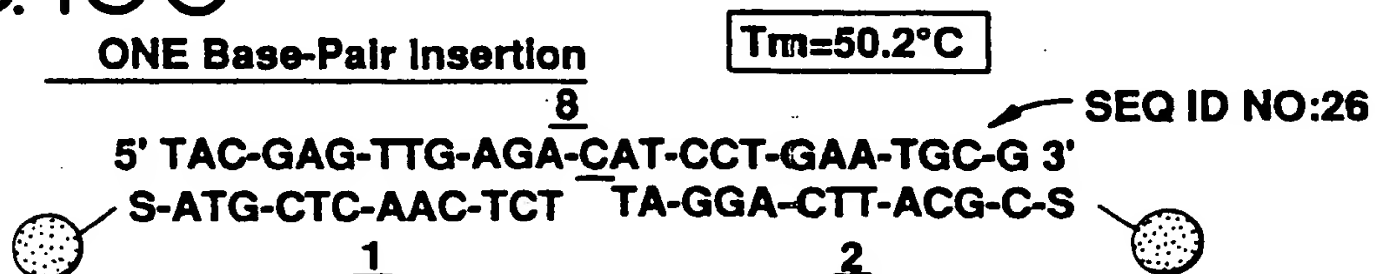


FIG. 16A

24 Base Template

5' TAC-GAG-TTG-AGA-ATC-CTG-AAT-GCG 3'
—S-ATG-CTC-AAC-TCT TAG-GAC-TTA-CGC-S —
1 2

FIG. 16B

48 Base Template with Complementary 24 Base Filler

5' TAC-GAG-TTG-AGA-CCG-TTA-AGA-CGA-GGC-AAT-CAT-GCA-ATC-CTG-AAT-GCG 3'
—S-ATG-CTC-AAC-TCT GGC-AAT-TCT-GCT-CCG-TTA-GTA-CGT TAG-GAC-TTA-CGC-S —
1 2

17/47

FIG. 16C

72 Base Template with Complementary 48 Base Filler

5' TAC-GAG-TTG-AGA-CCG-TTA-AGA-CGA-GGC-AAT-CAT-GCA-TAT-ATT-GGA-CGC-TTT-ACG-GAC-AAC-ATC-CTG-AAT-GCG 3'
—S-ATG-CTC-AAC-TCT GGC-AAT-TCT-GCT-CCG-TTA-GTA-CGT-ATA-TAA-CCT-GCG-AAA-TGC-CTG-TTG TAG-GAC-TTA-CGC-S —
1 2

FIG. 17A

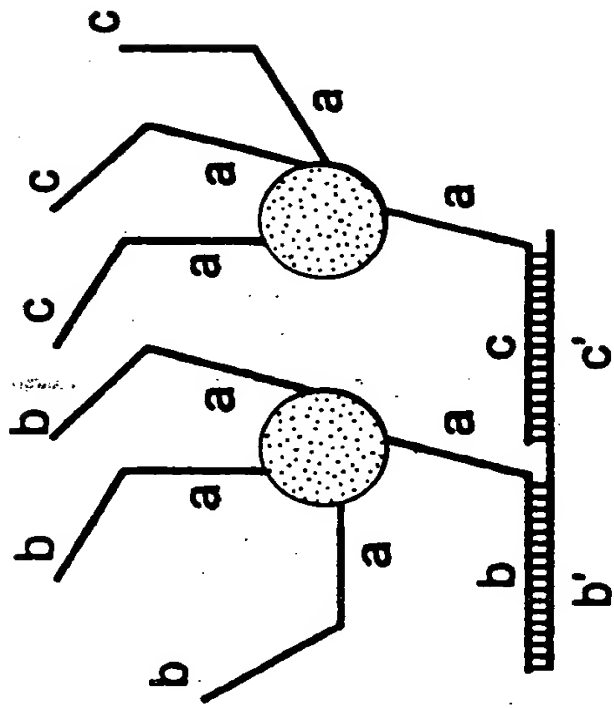


FIG. 17B

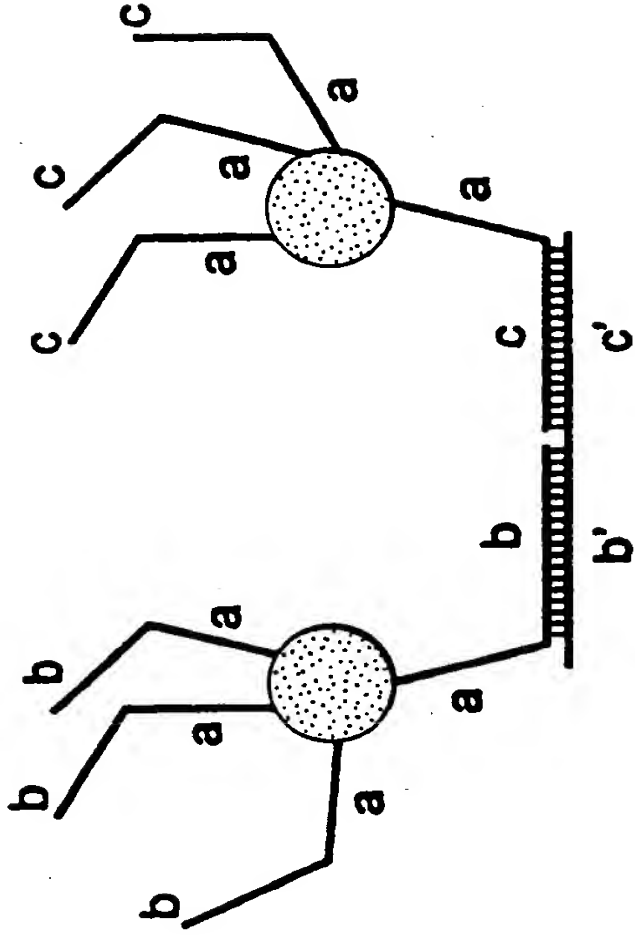


FIG. 17C

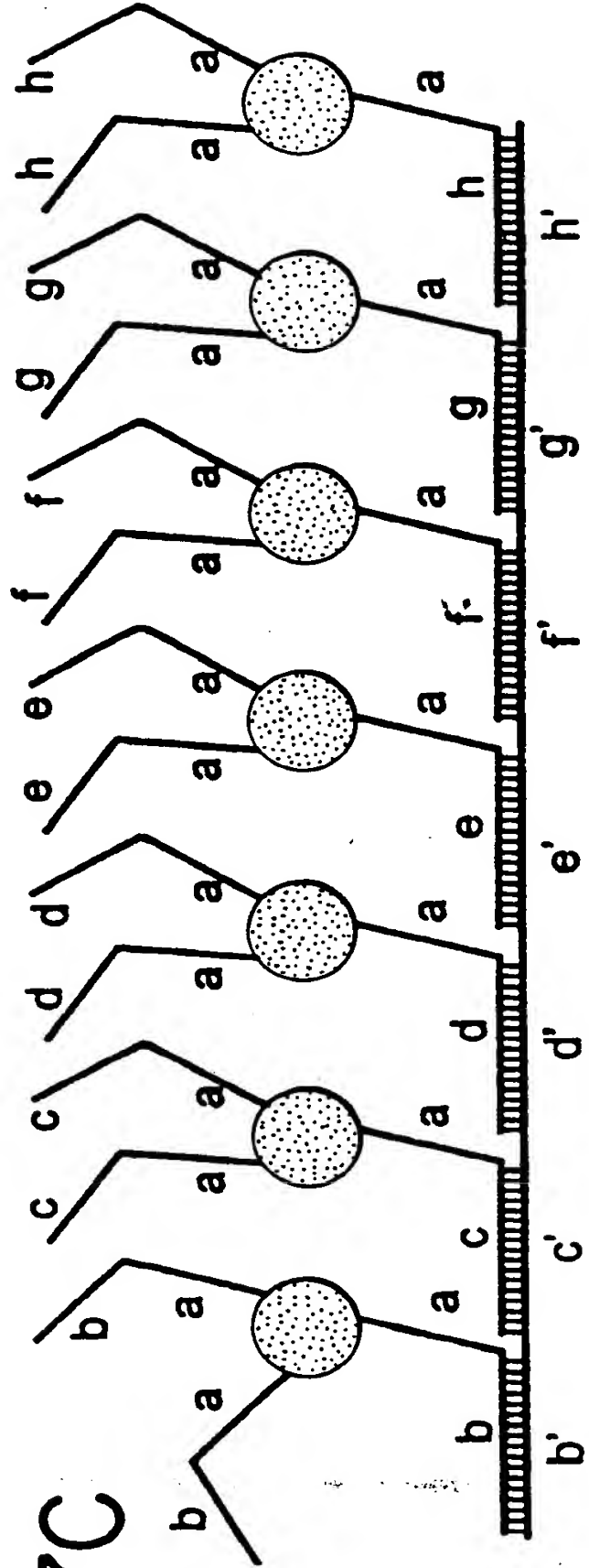


FIG. 17D

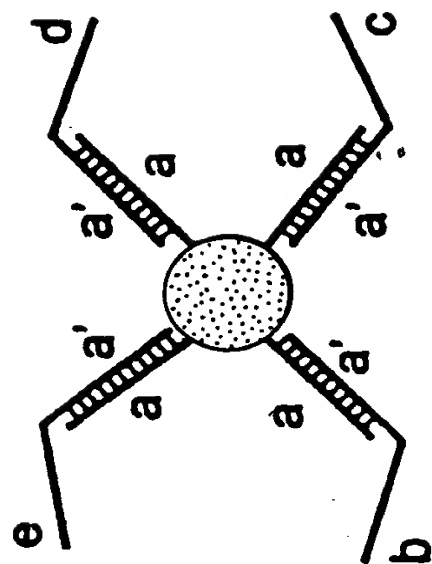
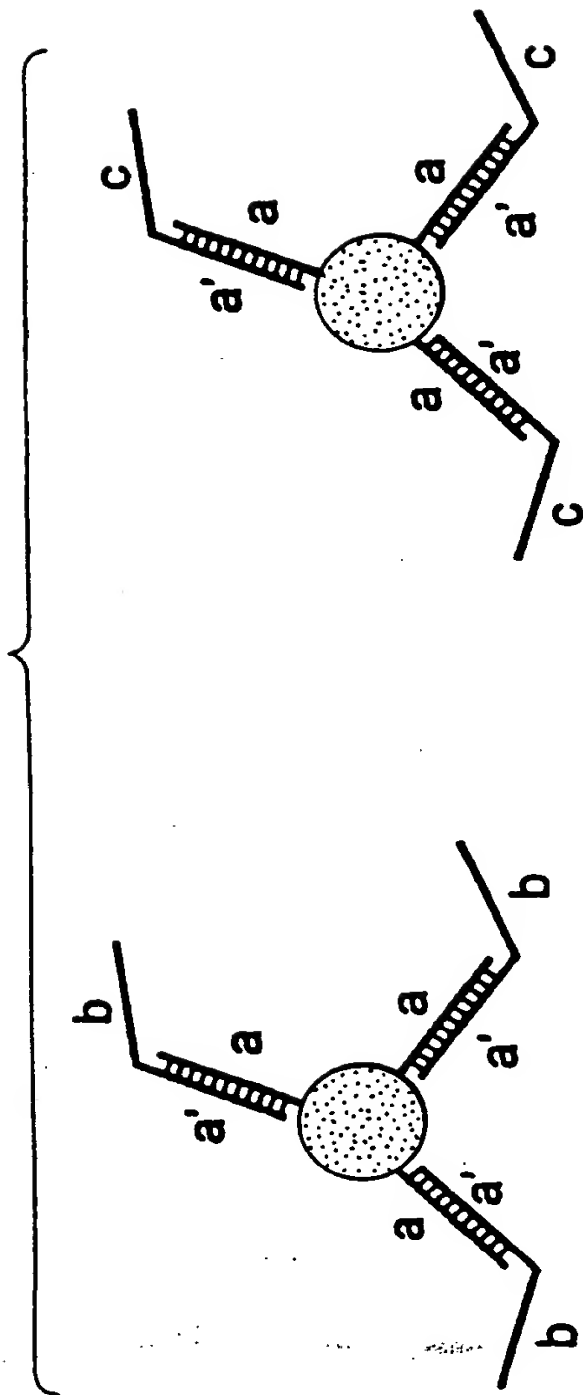


FIG. 17E

FIG. 18

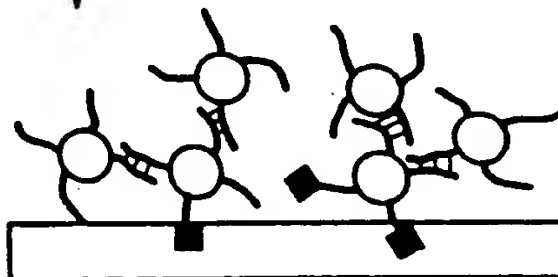
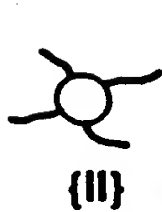
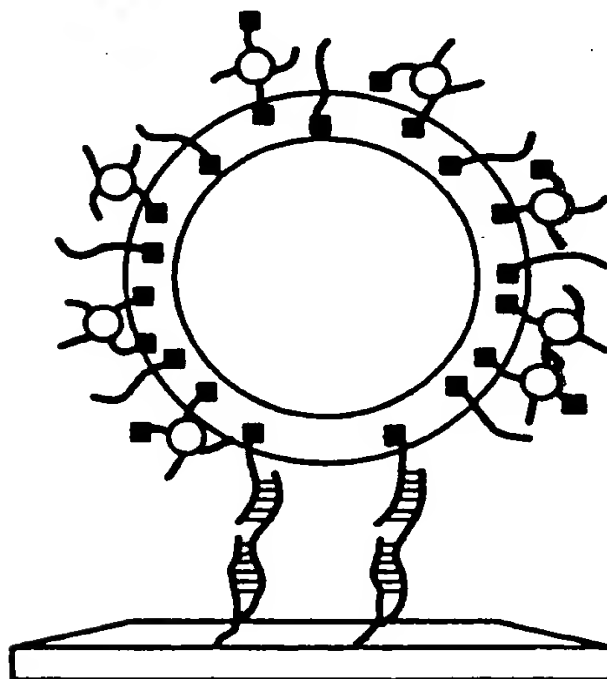
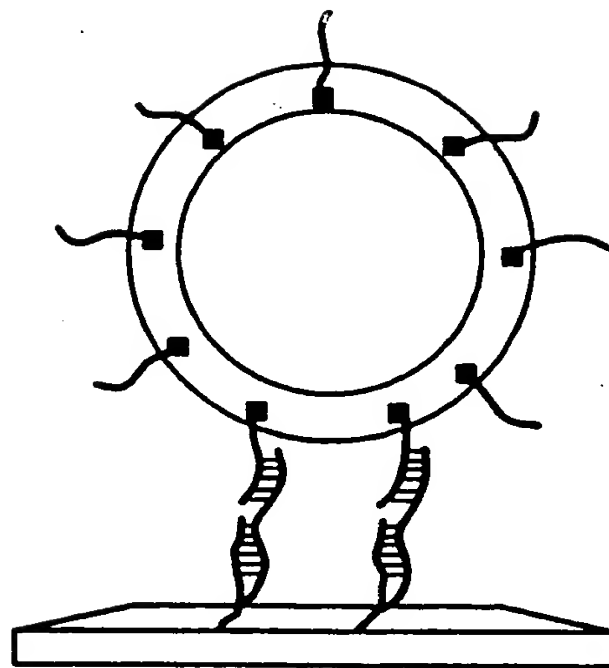


FIG. 19A

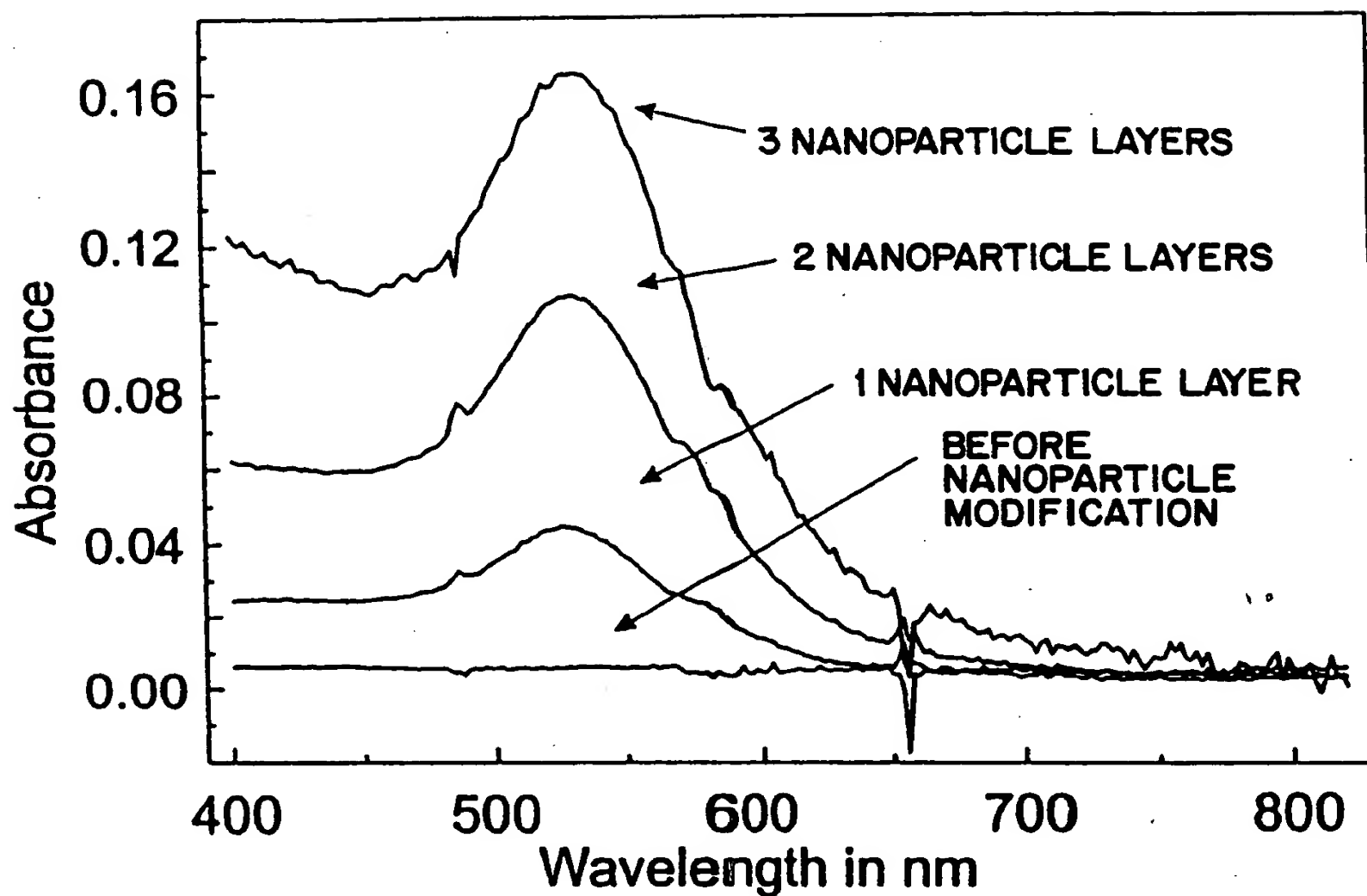


FIG. 19B

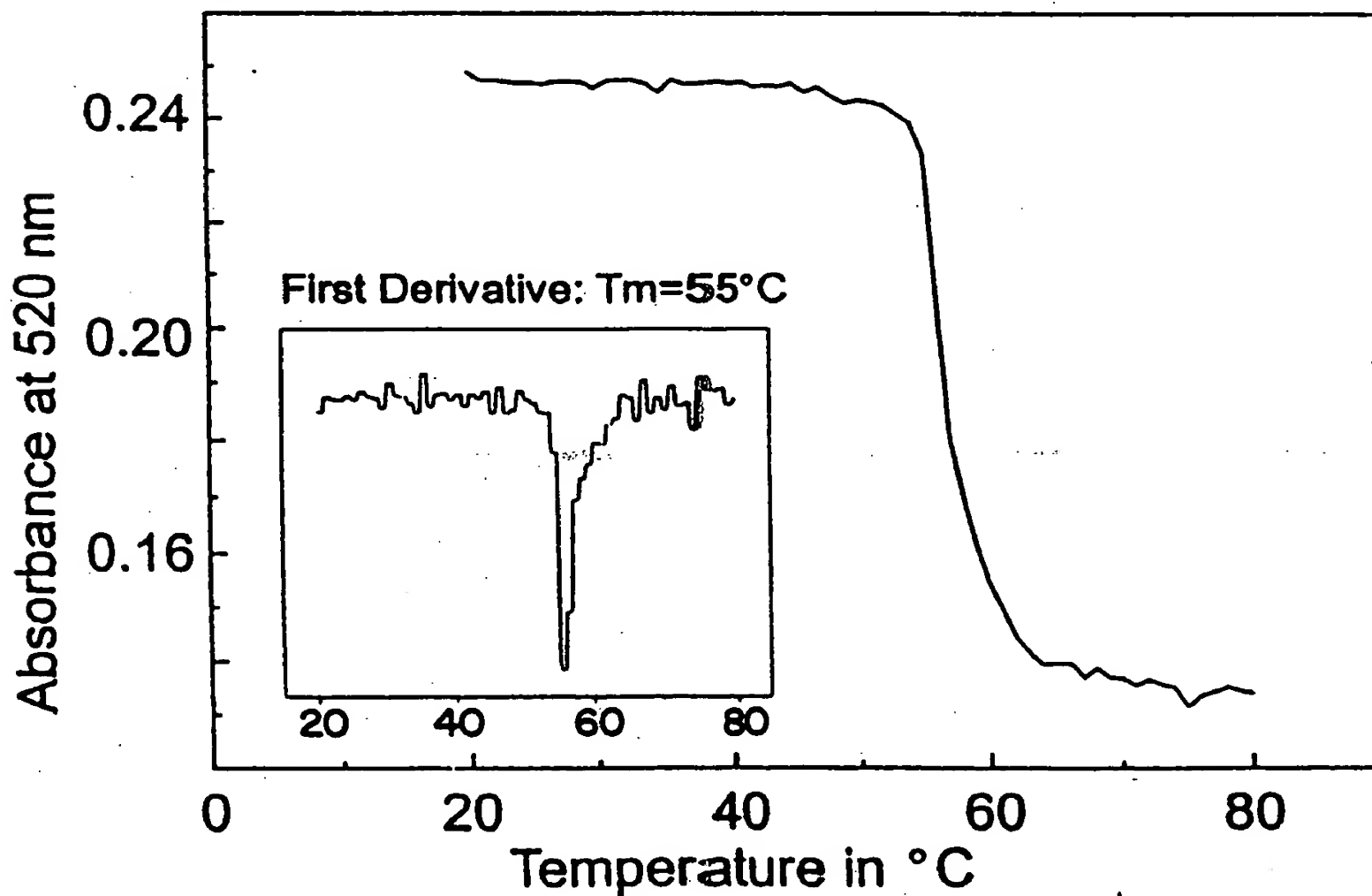


FIG. 20A

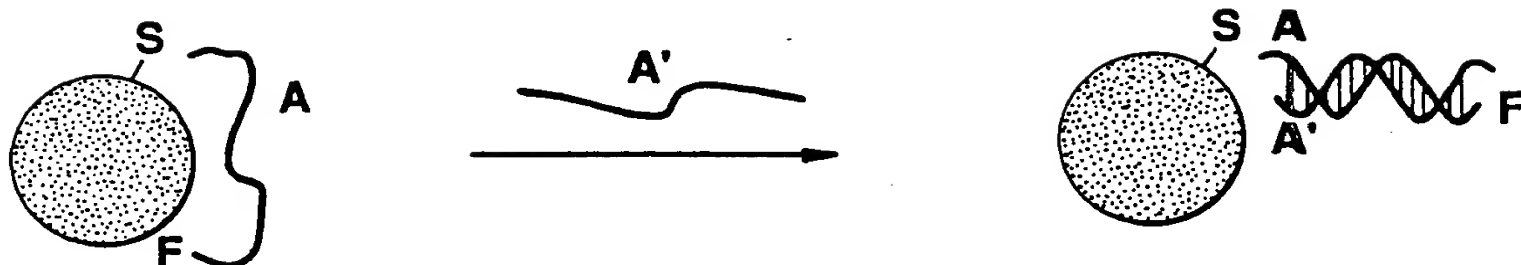
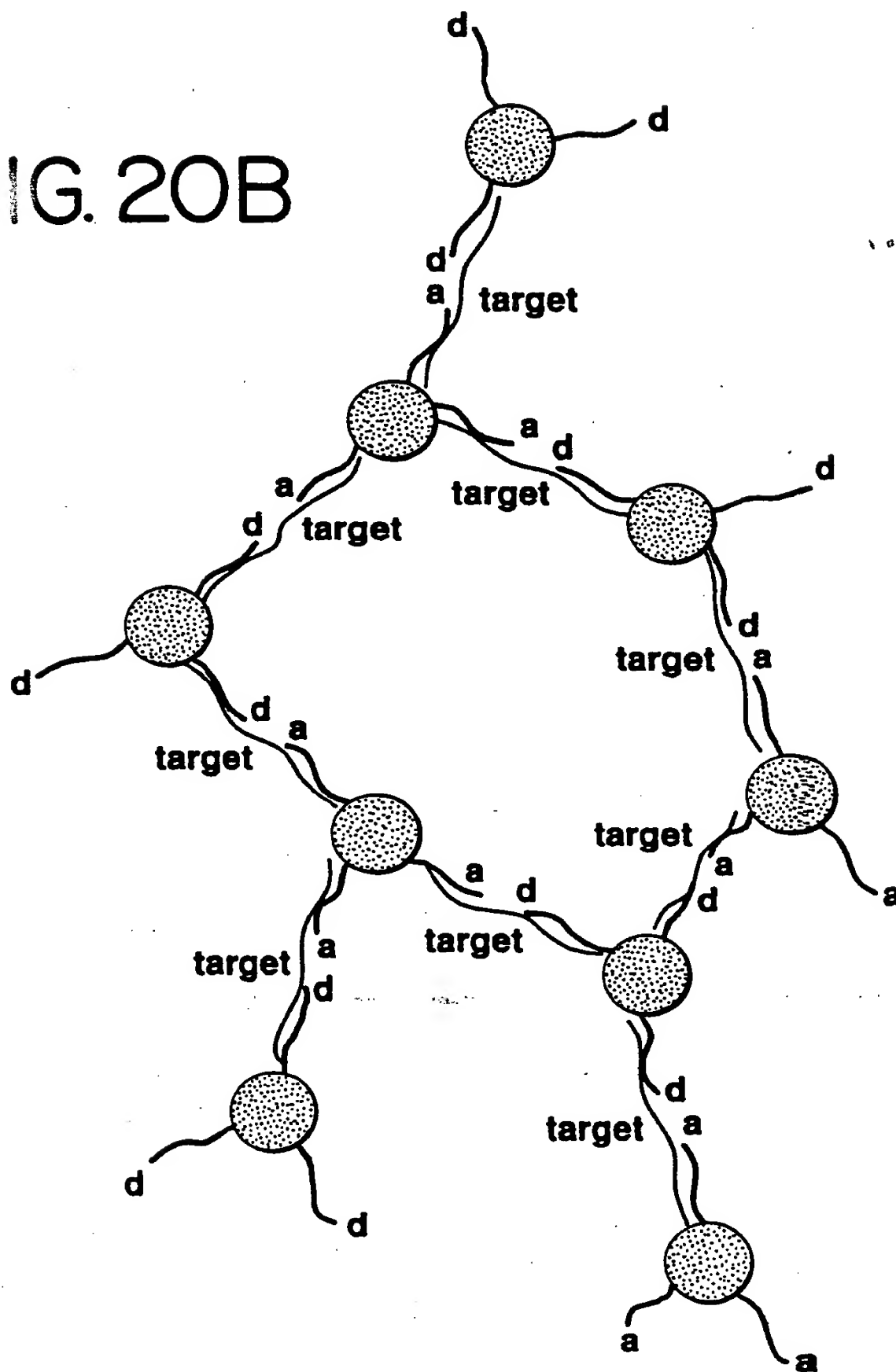


FIG. 20B



BEST AVAILABLE COPY

FIG. 21

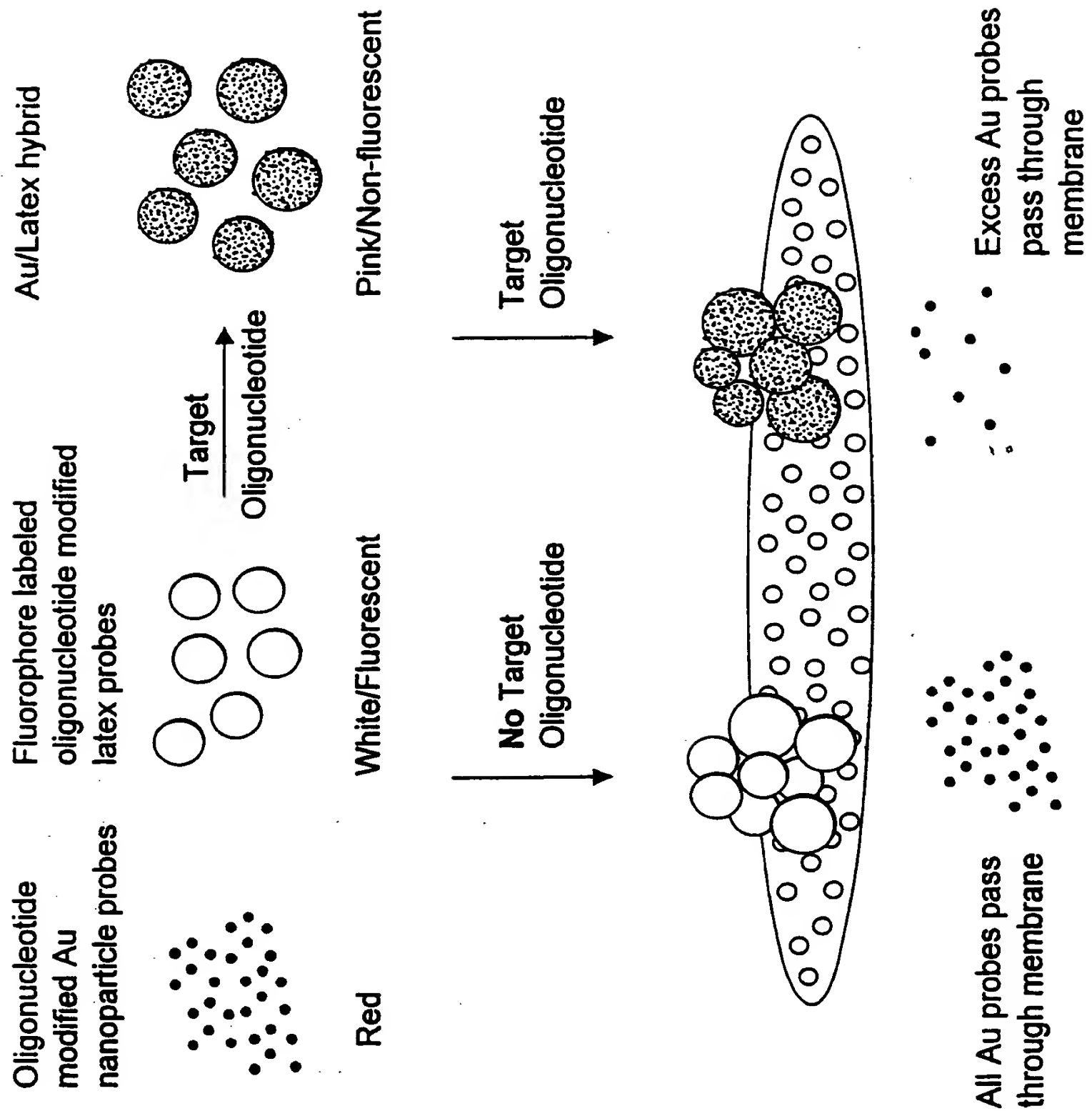
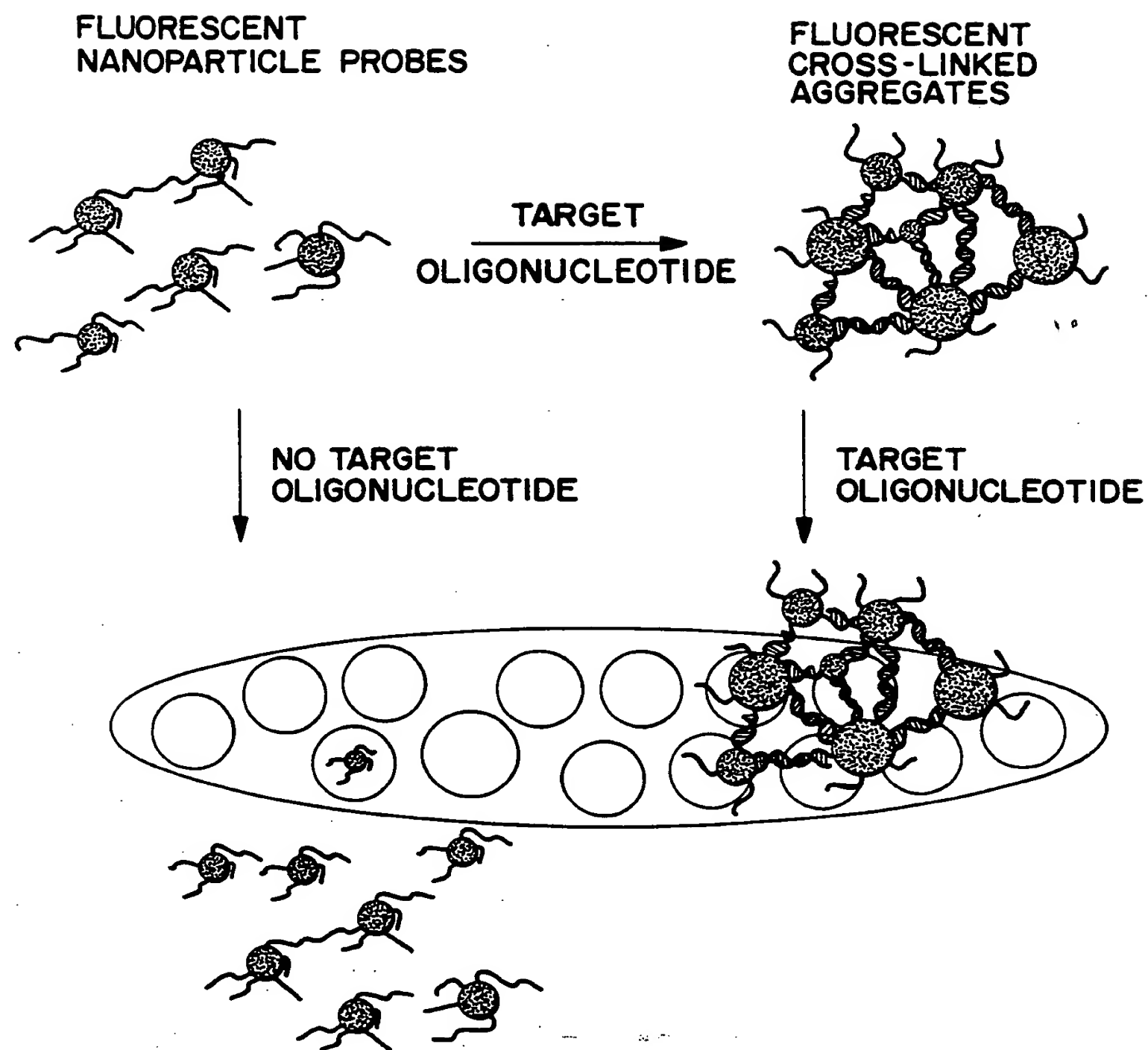


FIG. 22



THE FLUORESCENT NANOPARTICLE
PROBES PASS THROUGH THE
MEMBRANE

THE FLUORESCENT
CROSS-LINKED AGGREGATES
ARE RETAINED BY THE
MEMBRANE

BEST AVAILABLE COPY

FIG. 23

Anthrax PCR Product

5'G GCG GAT GAG TCA GTA GTT AAG GAG GCT CAT AGA GAA GTA ATT AAT
3'C CGC CTA CTC AGT CAT CAA TTC CTC CGA GTA TCT CTT CAT TAA TTA

TCG TCA ACA GAG GGA TTA TTG TTA AAT ATT GAT AAG GAT ATA AGA AAA
AGC AGT TGT CTC CCT AAT AAC AAT TTA TAA CTA TTC CTA TAT TCT TTT

ATA TTA TCC AGG GTT ATA TTG TAG AAA TTG AAG ATA CTG AAG GGC TT 3'
TAT AAT AGG TCC CAA TAT AAC ATC TTT AAC TTC TAT GAC TTC CCG AA 5'

141 mer Anthrax PCR product [SEQ ID NO:36]

3' CTC CCT AAT AAC AAT

[SEQ ID NO:37]

3' TTA TAA CTA TTC CTA

[SEQ ID NO:38]

Oligonucleotide-Nanoparticle Probes

Blocker Oligonucleotides

3' C CGC CTA CTC AGT CAT CAA TTC CTC CGA GT

[SEQ ID NO:39]

3' A TCT CTT CAT TAA TTA AGC AGT TGT

[SEQ ID NO:40]

3' TAT TCT TTT TAT AAT AGG TCC CAA TAT

[SEQ ID NO:41]

3' AAC ATC TTT AAC TTC TAT GAC TTC CCG AA

[SEQ ID NO:42]

FIG. 24

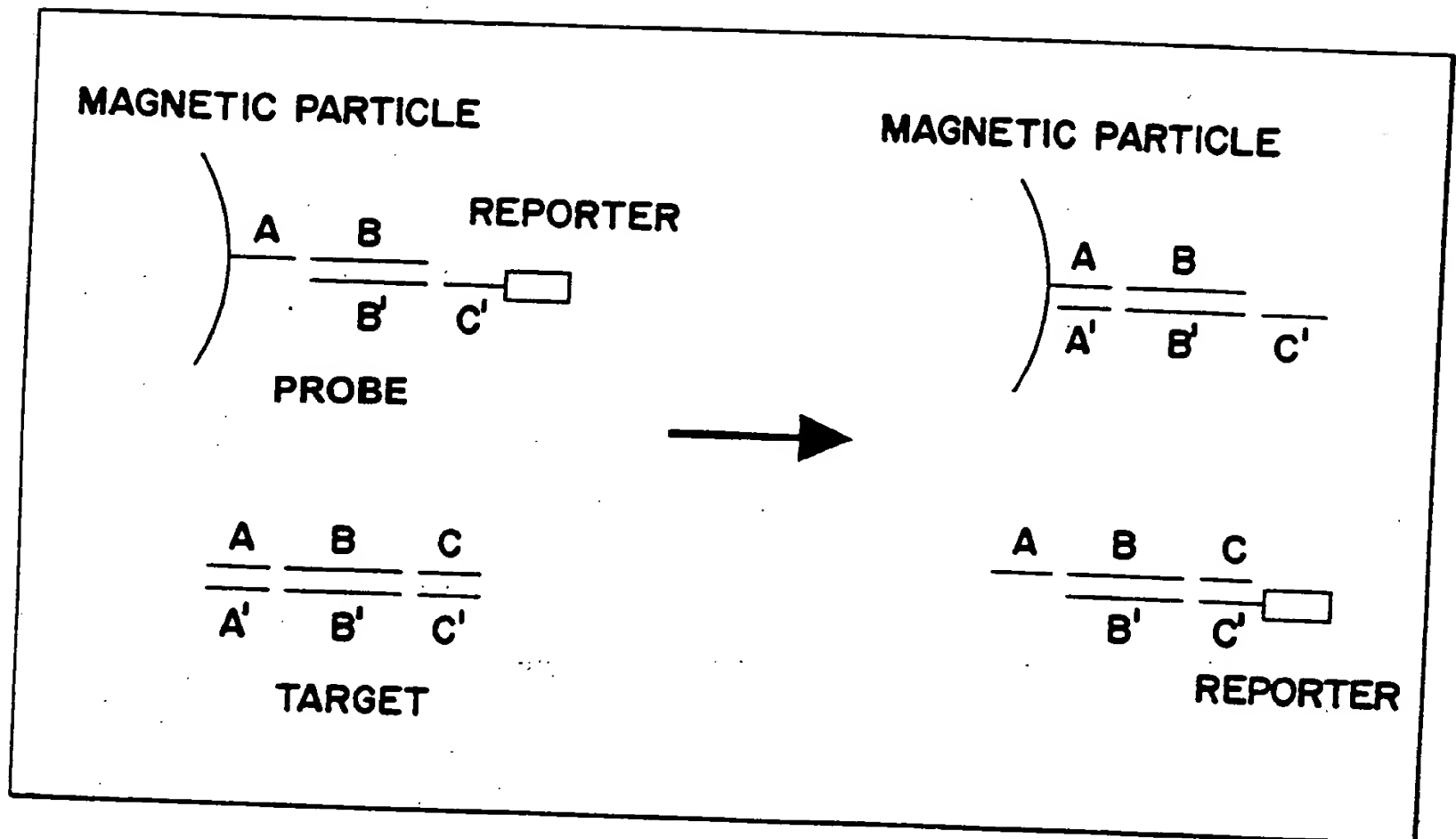
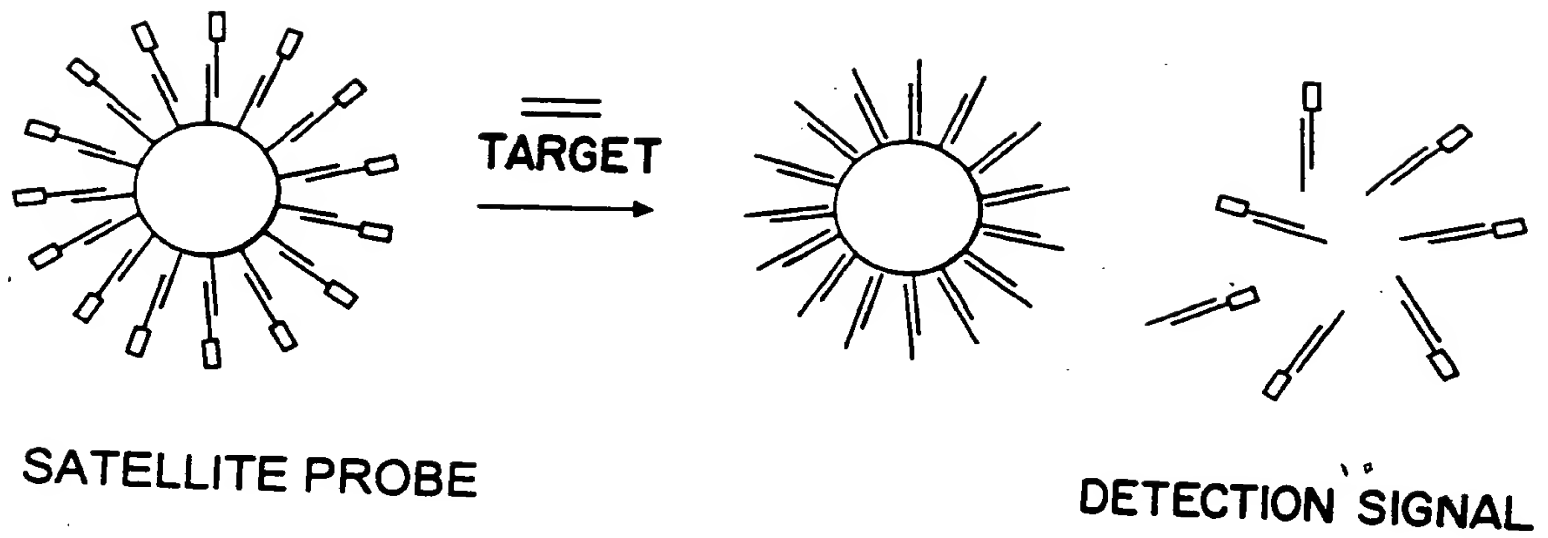


FIG. 25A

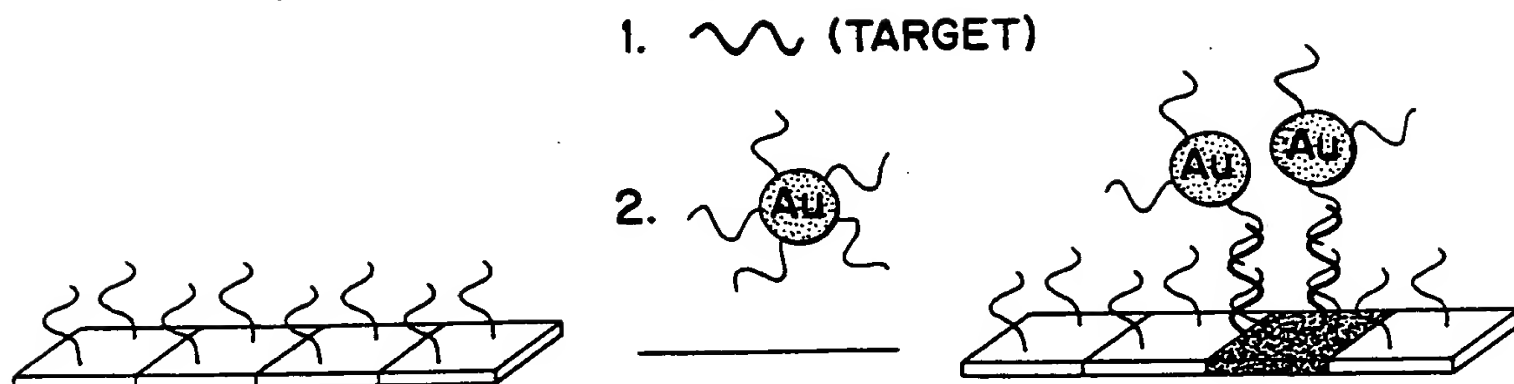


FIG. 25B

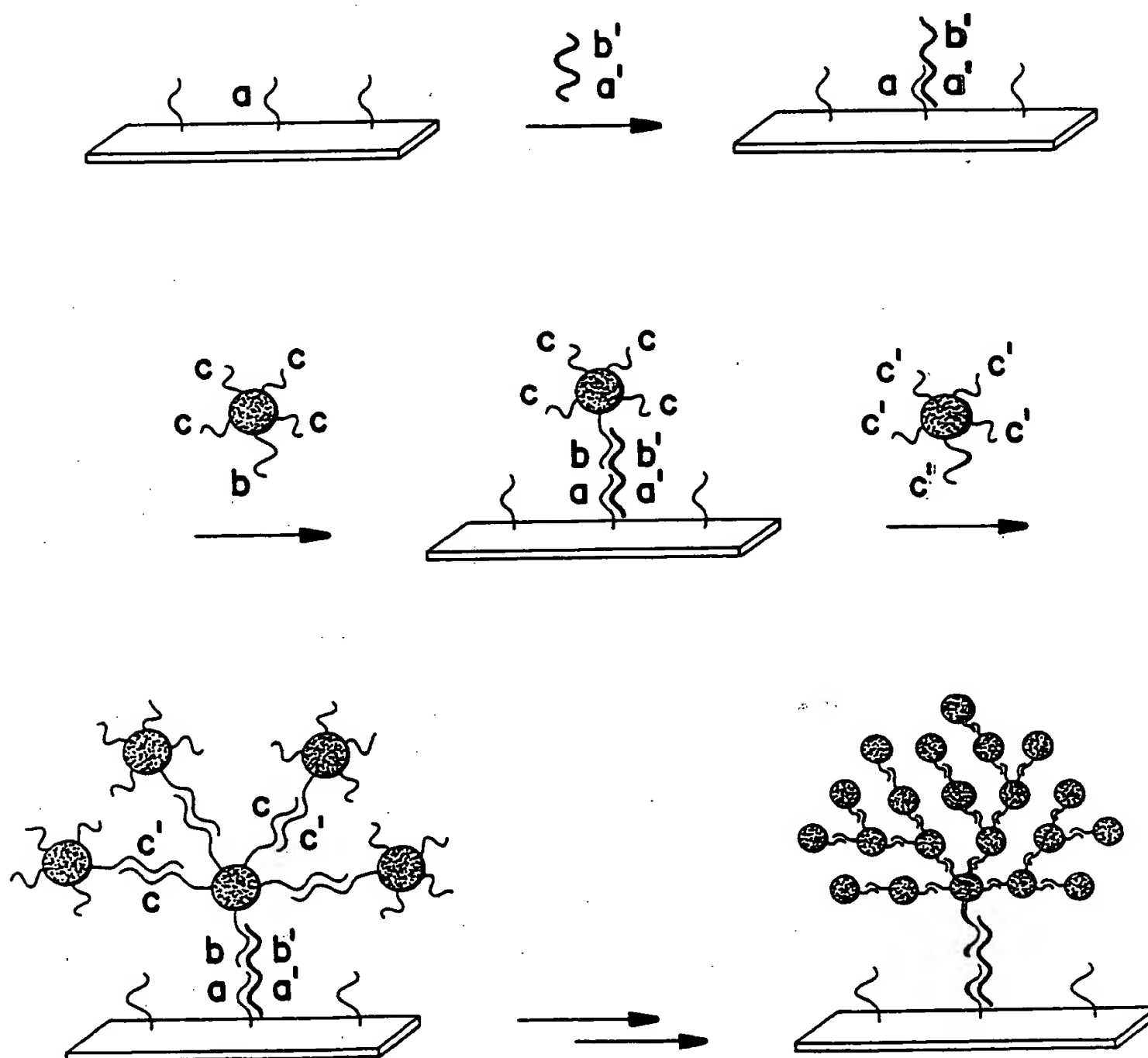


FIG. 26A

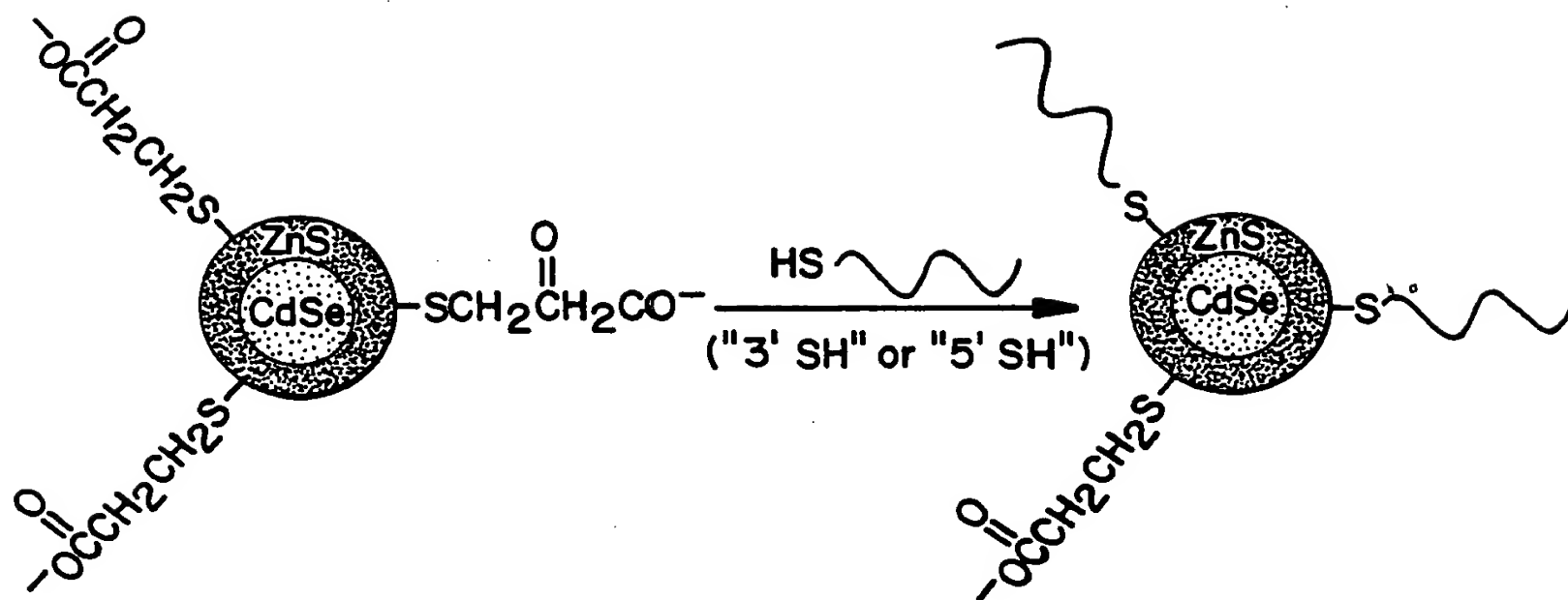
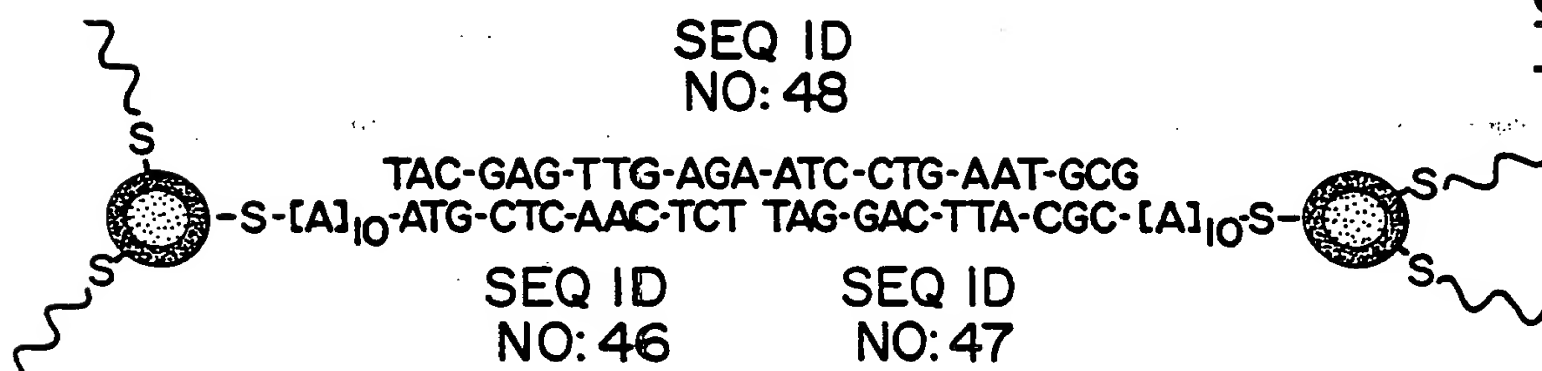


FIG. 26B



BEST AVAILABLE COPY

FIG. 27A

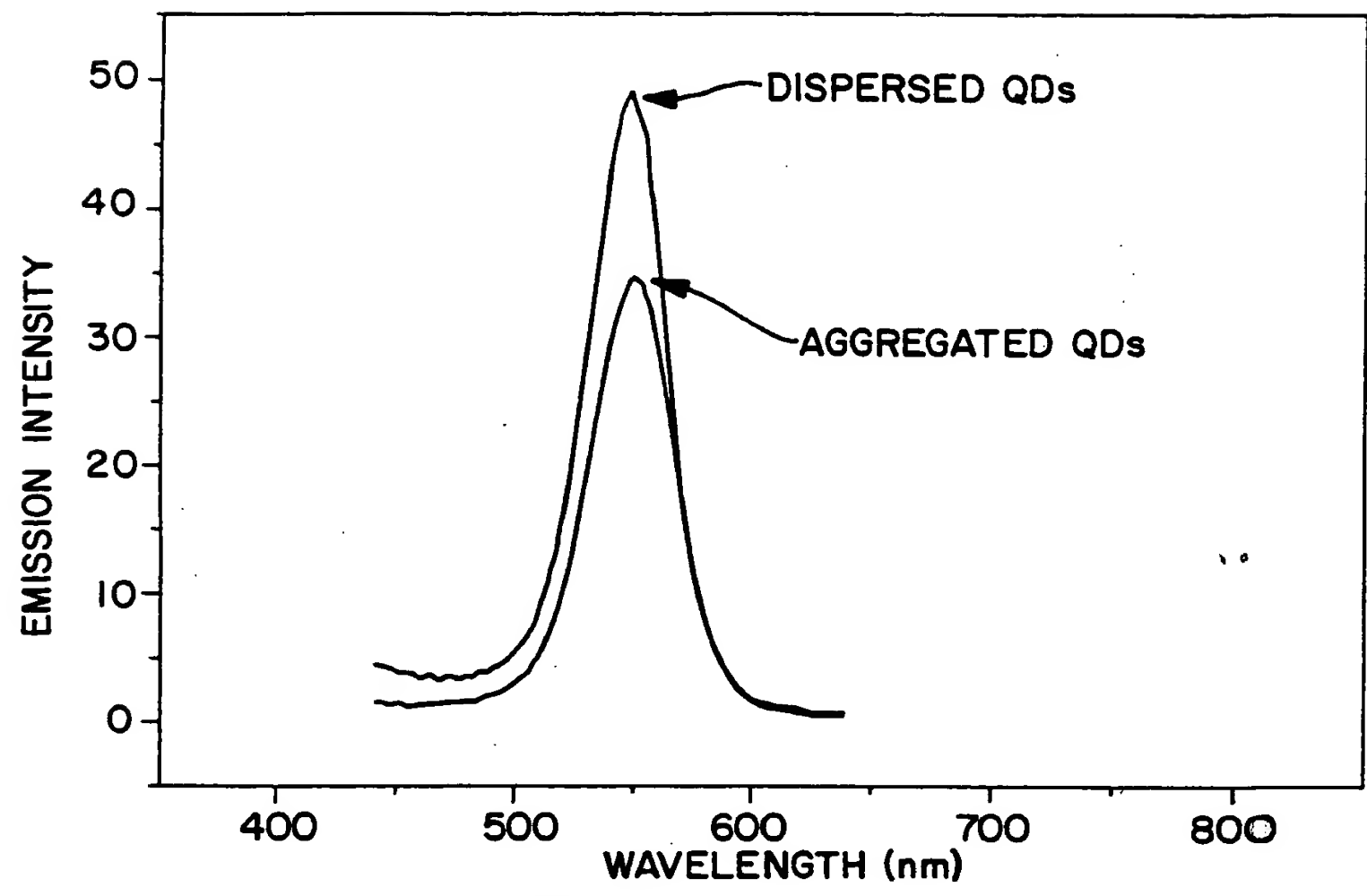


FIG. 27B

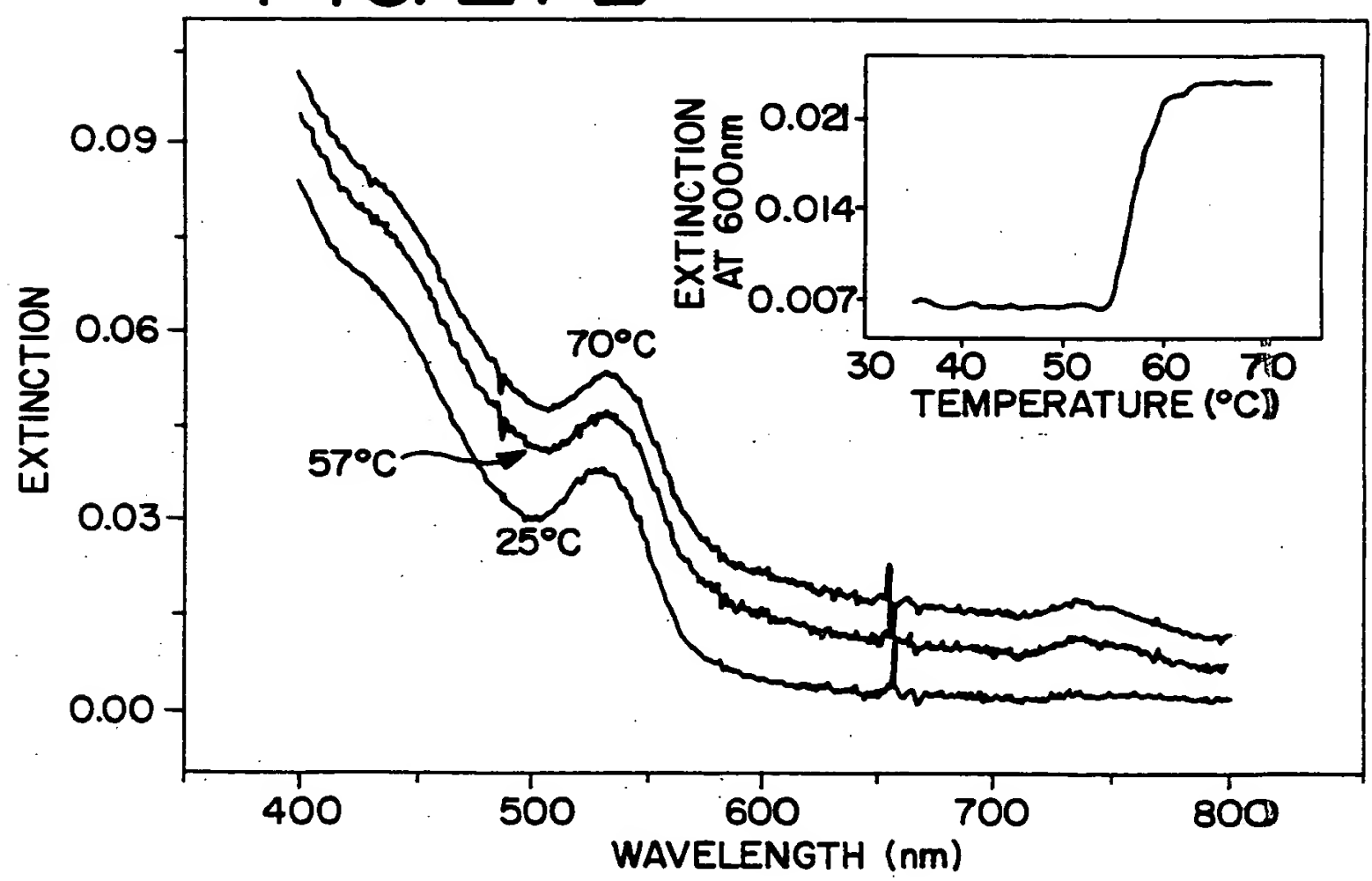


FIG. 27C

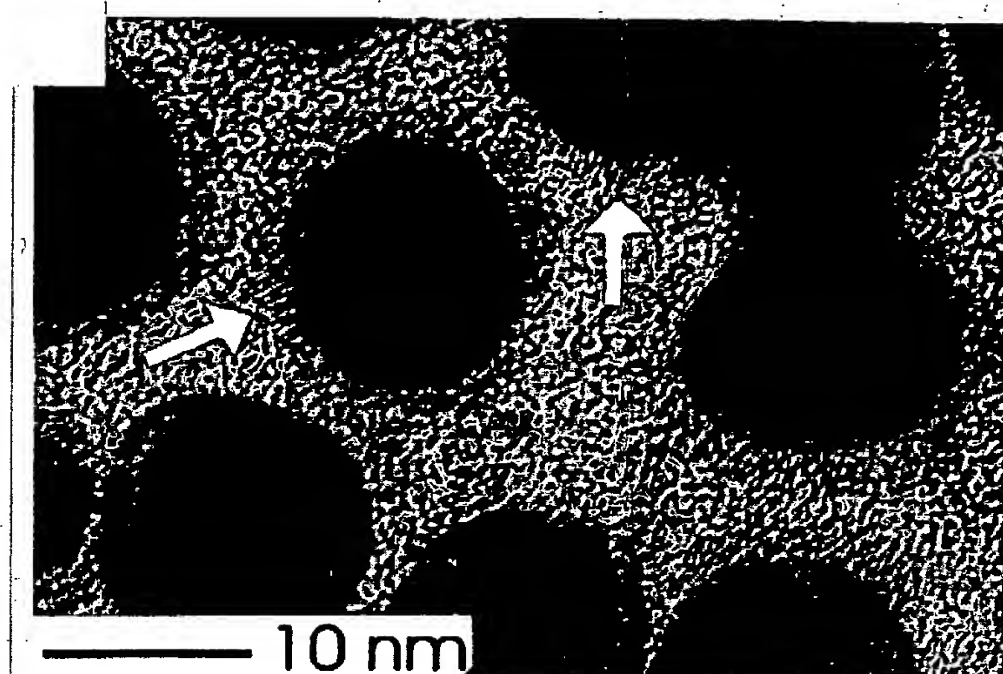
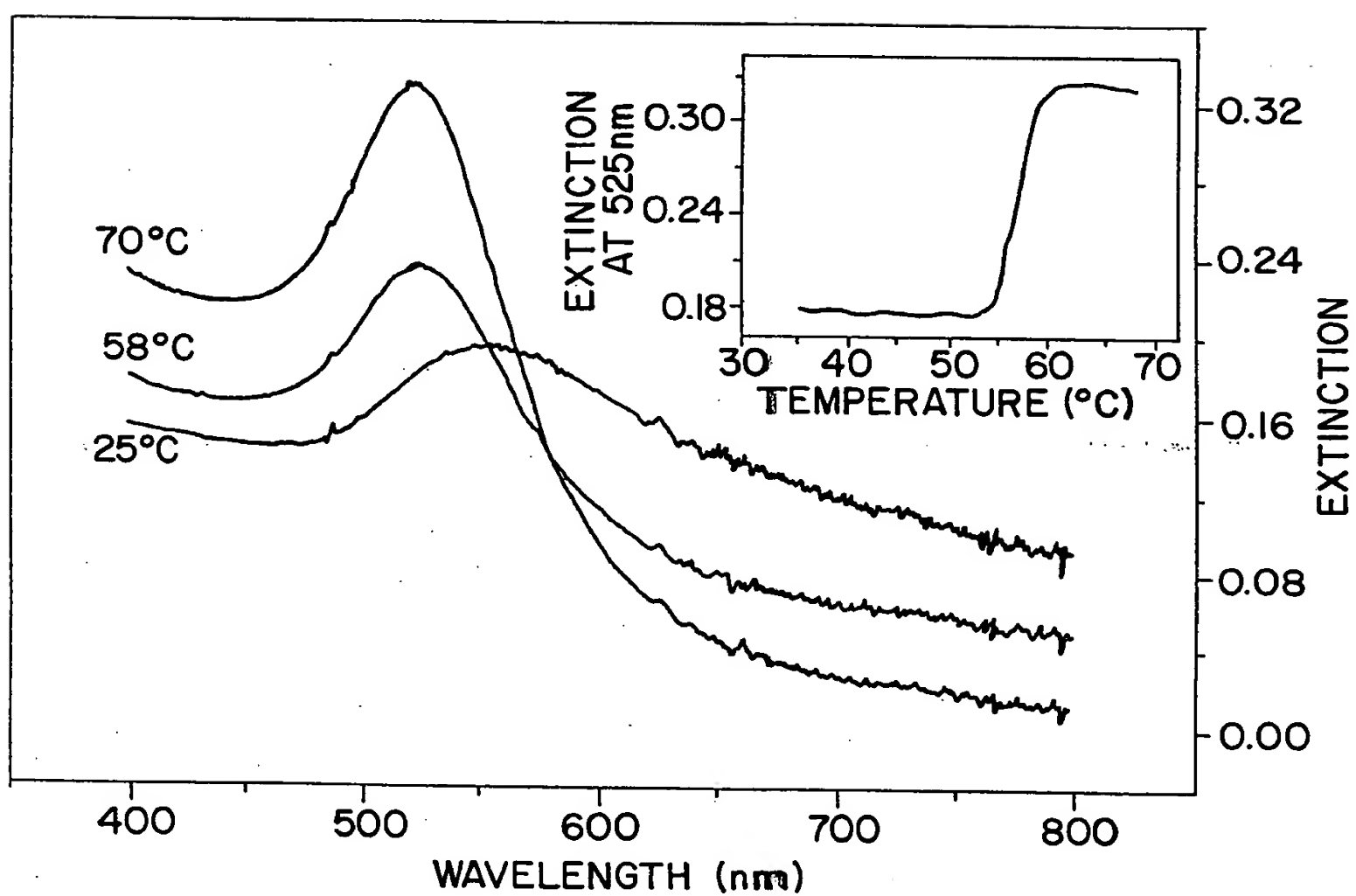


FIG. 27D



BEST AVAILABLE COPY

FIG. 28A

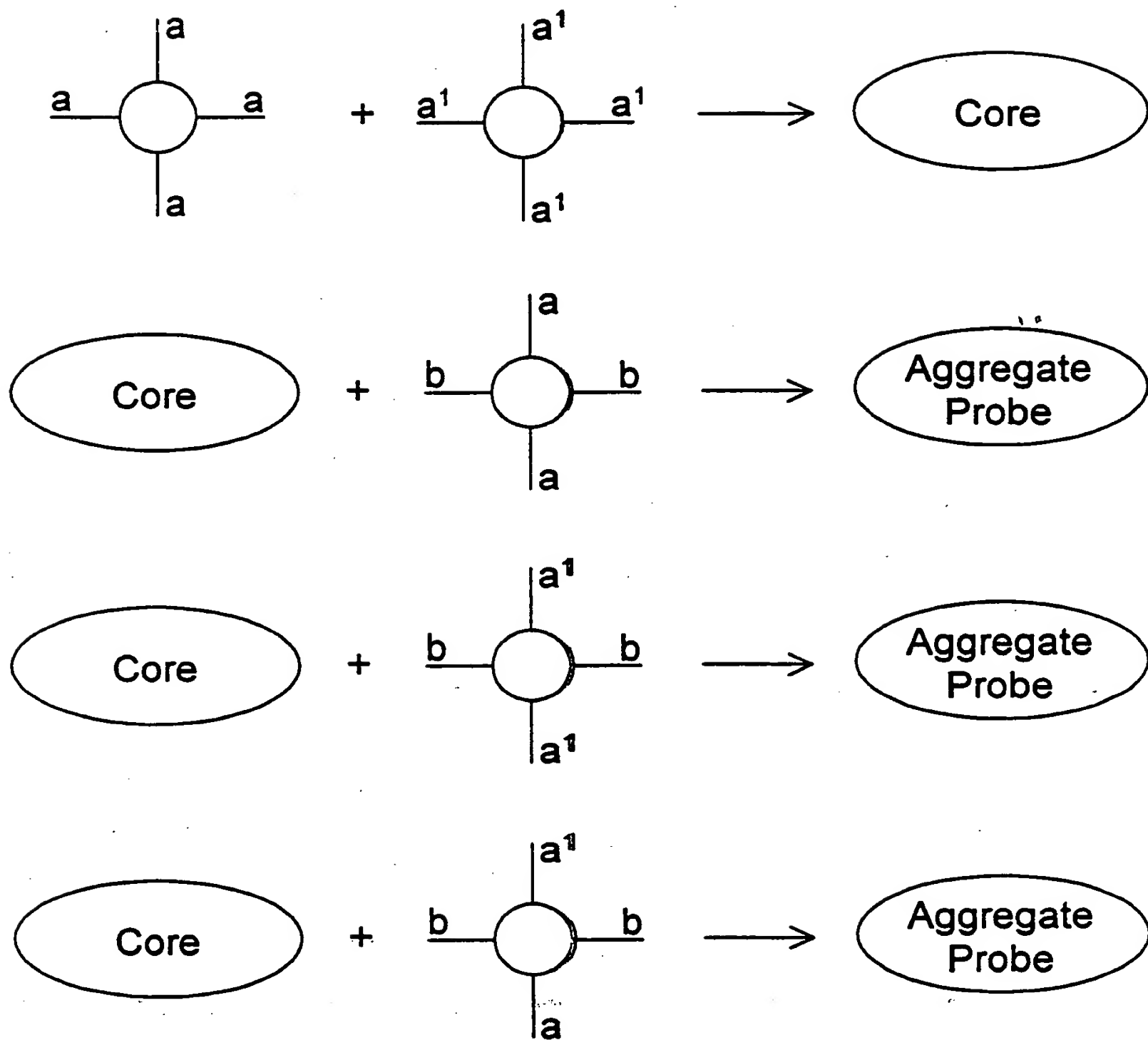


FIG. 28B

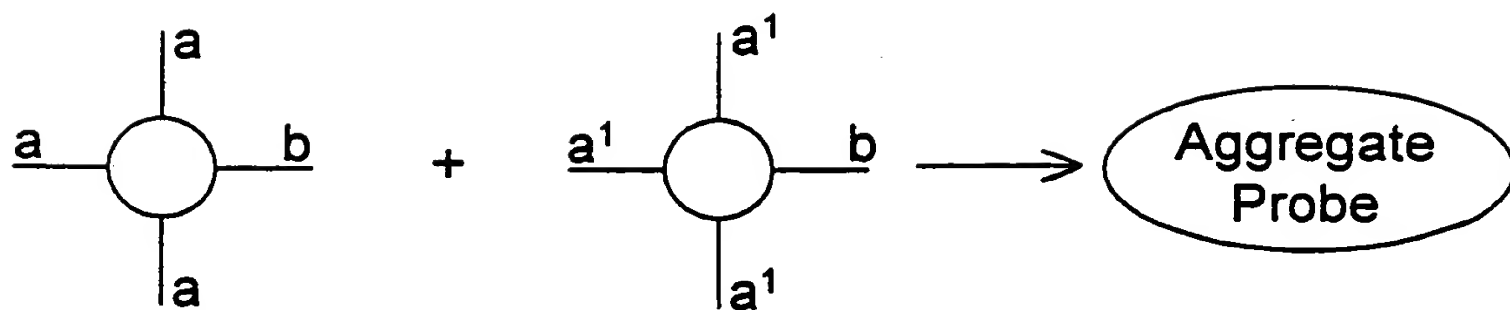


FIG. 28C

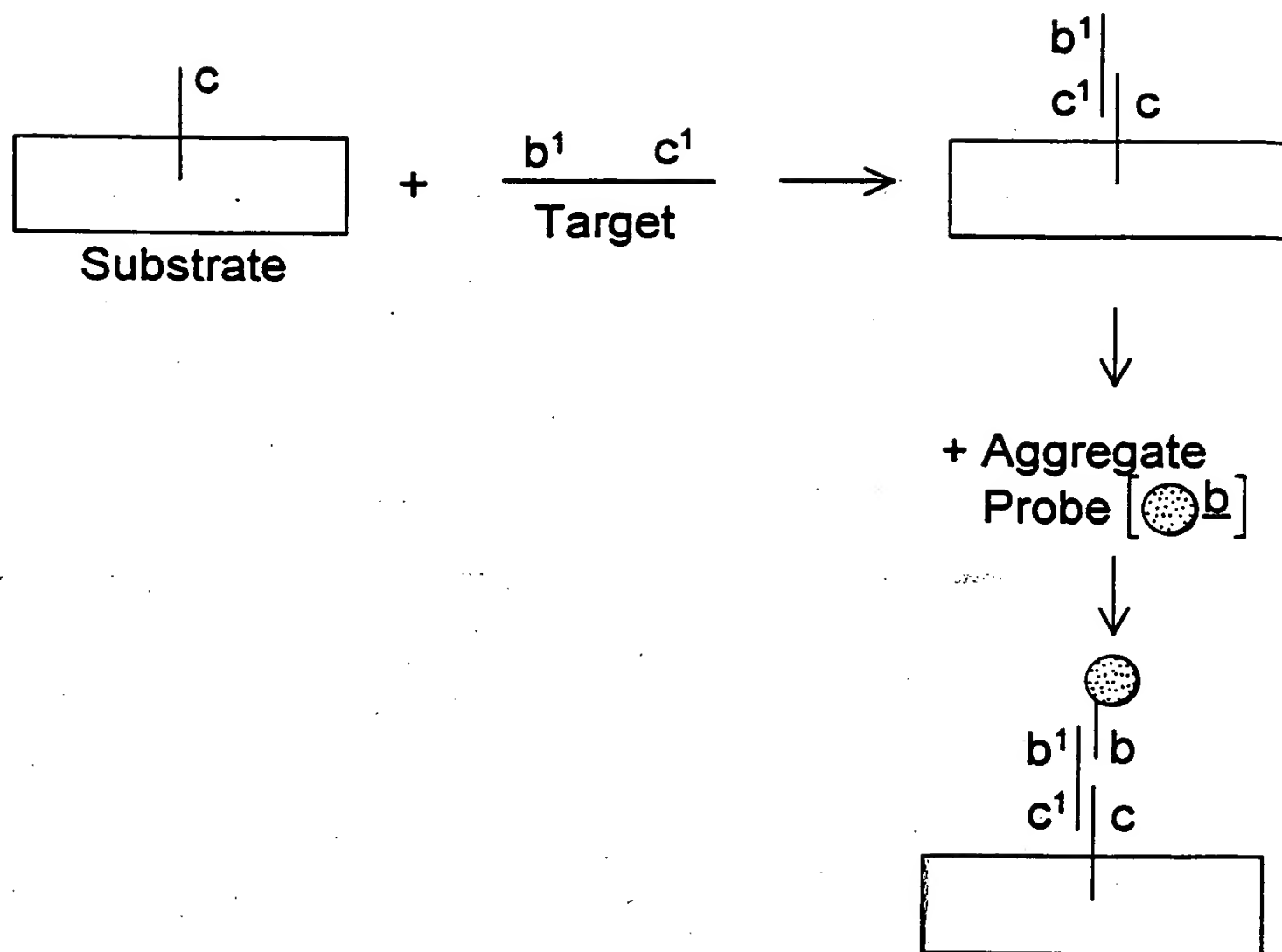


FIG. 28D

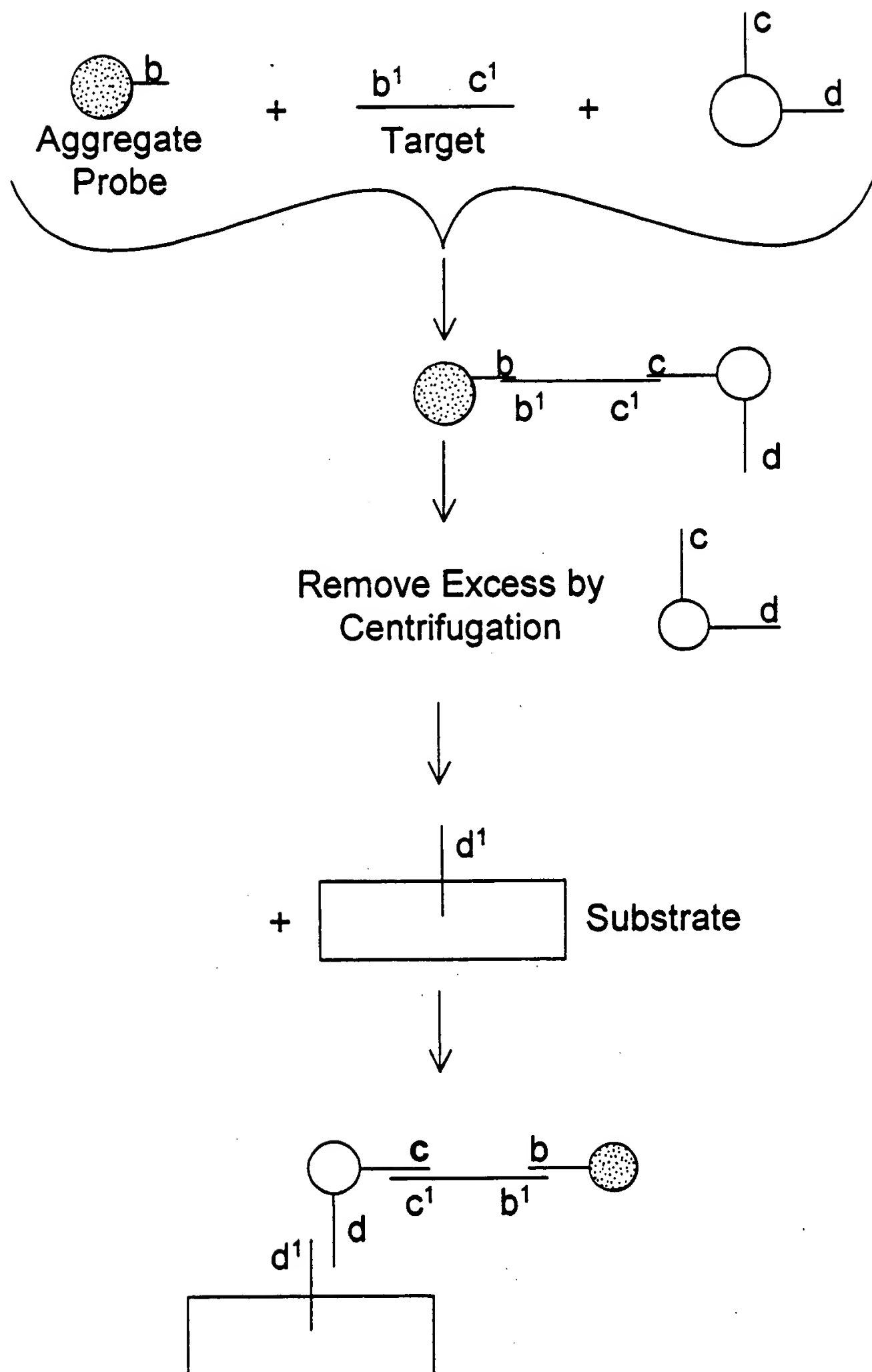
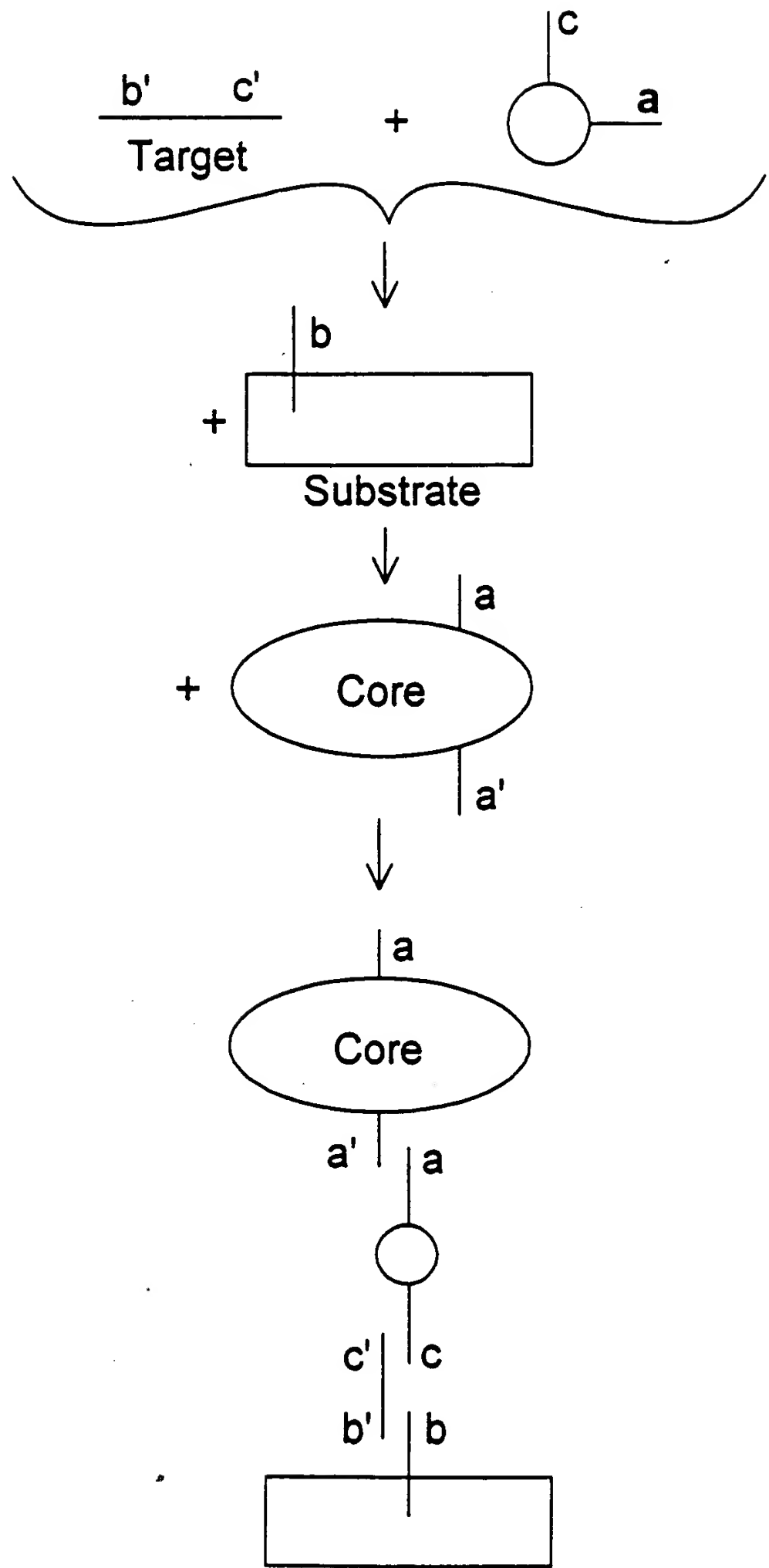


FIG. 28E



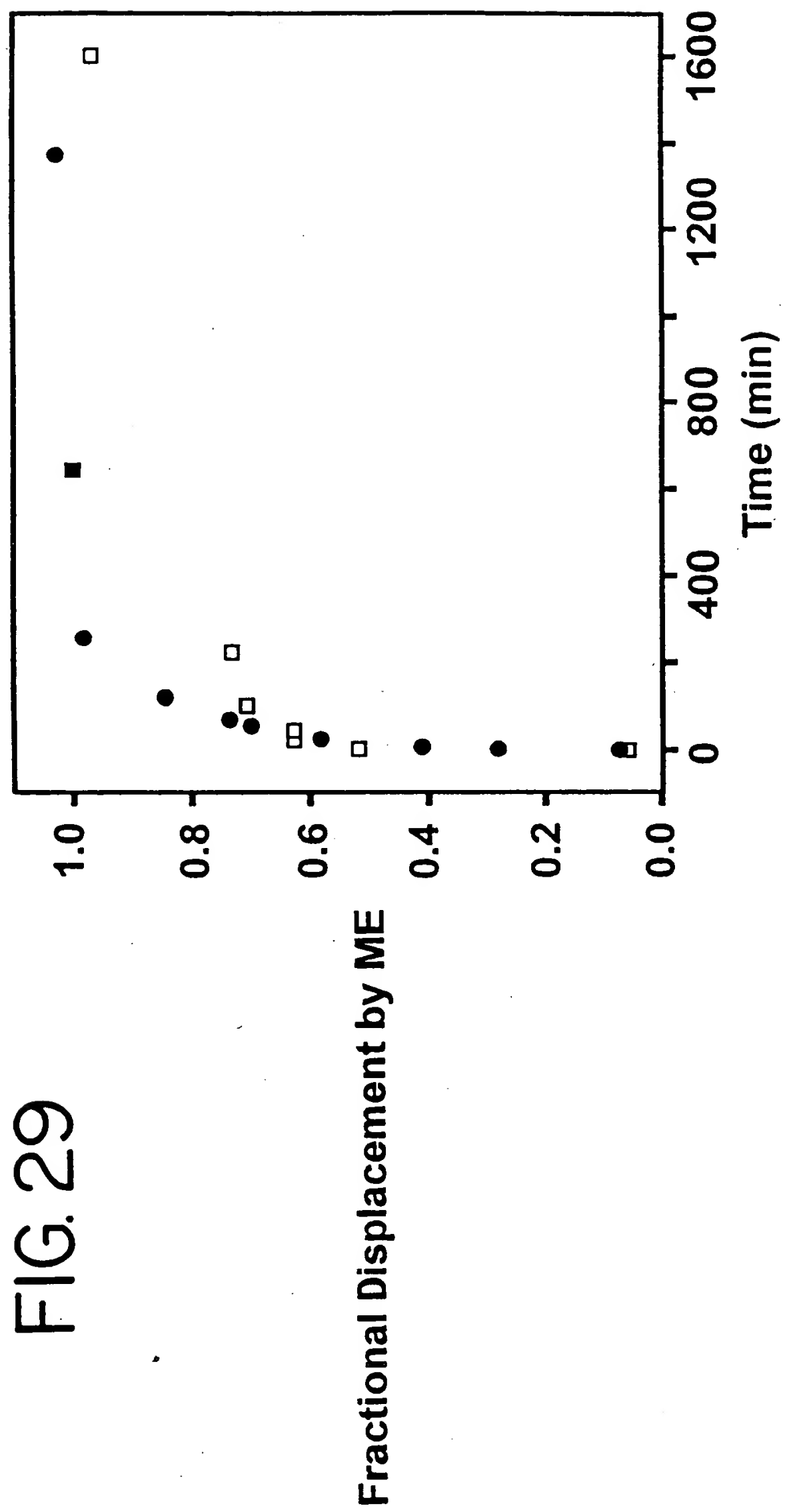


FIG. 30

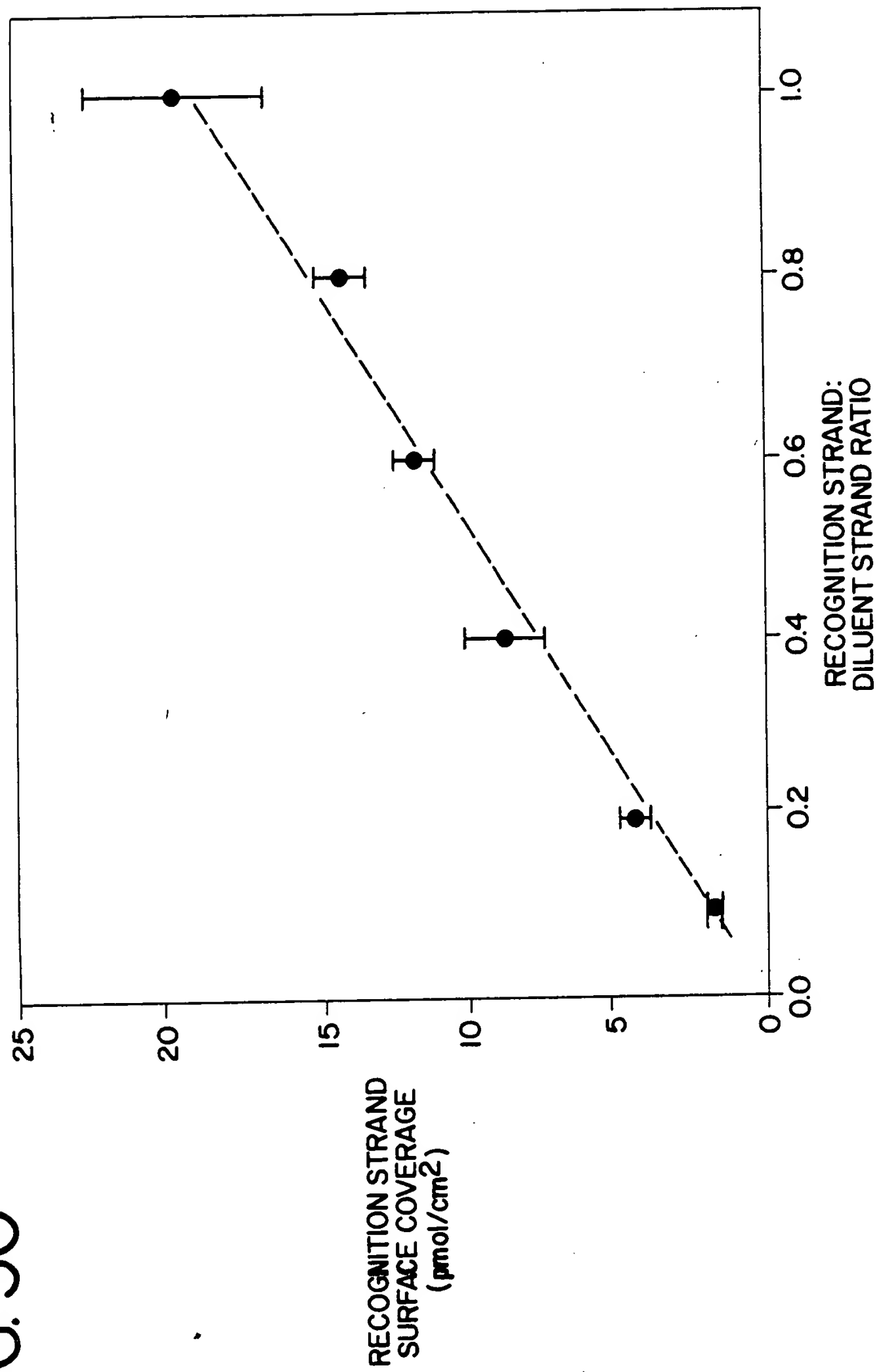


FIG. 31

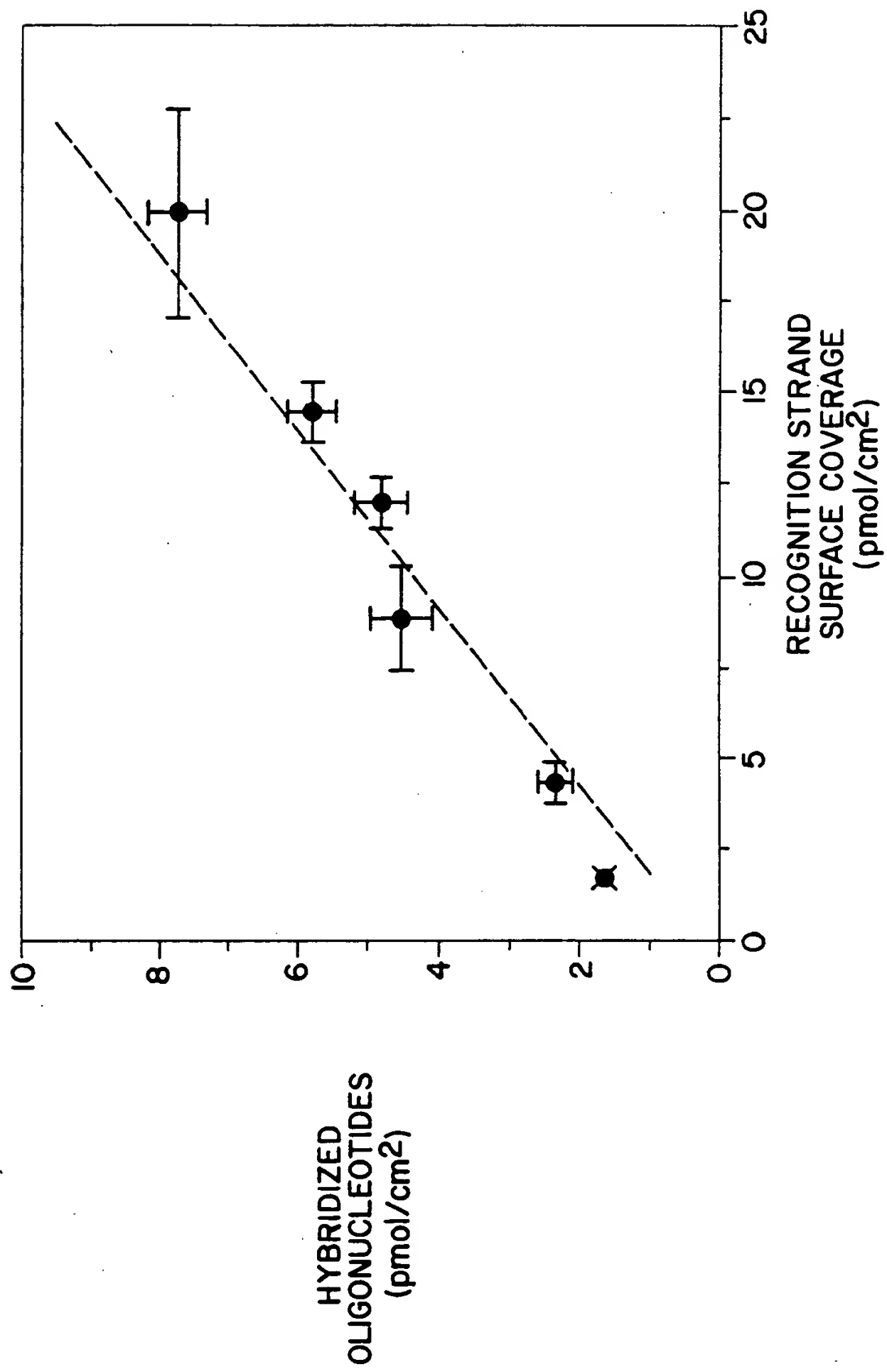
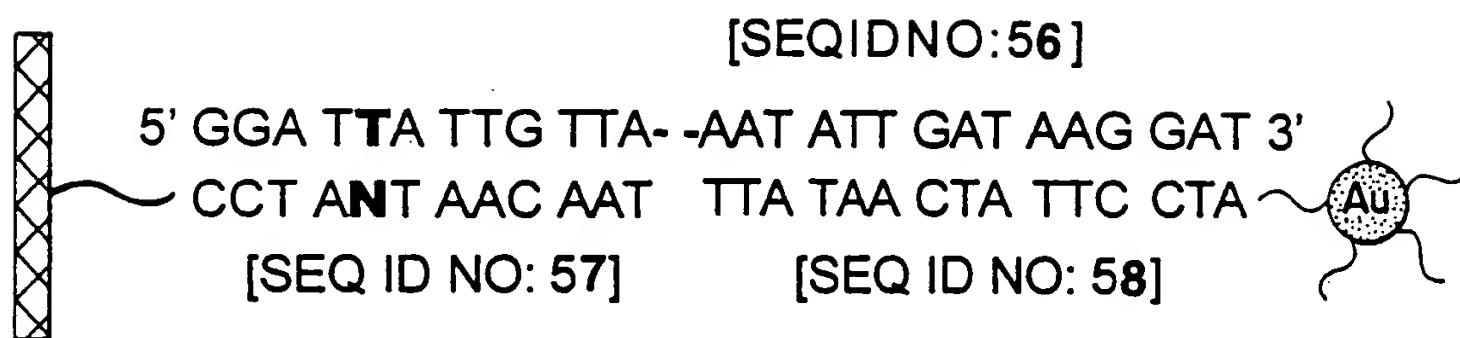


FIG. 32



N = A (complementary),
G, C, T (mismatched)

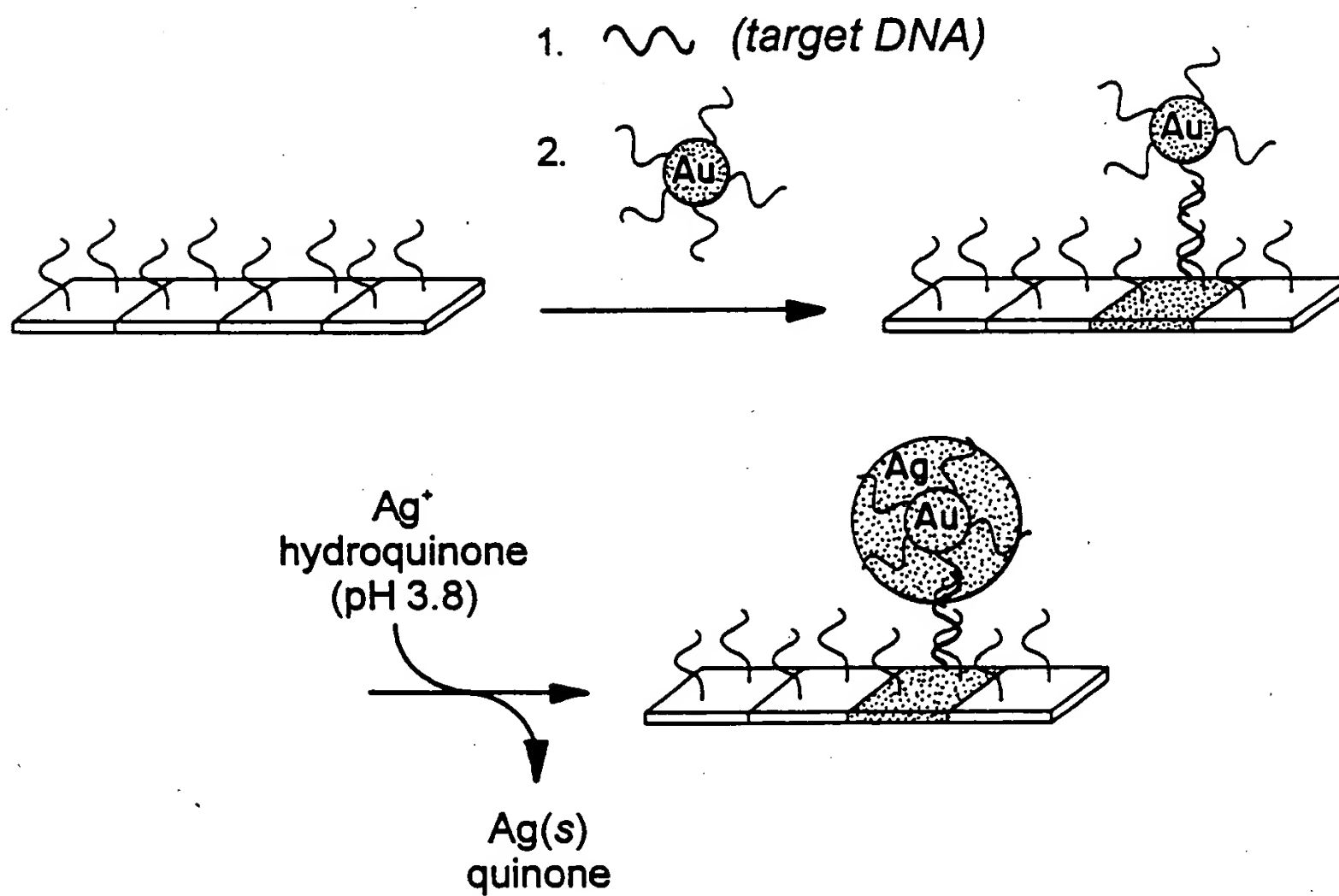
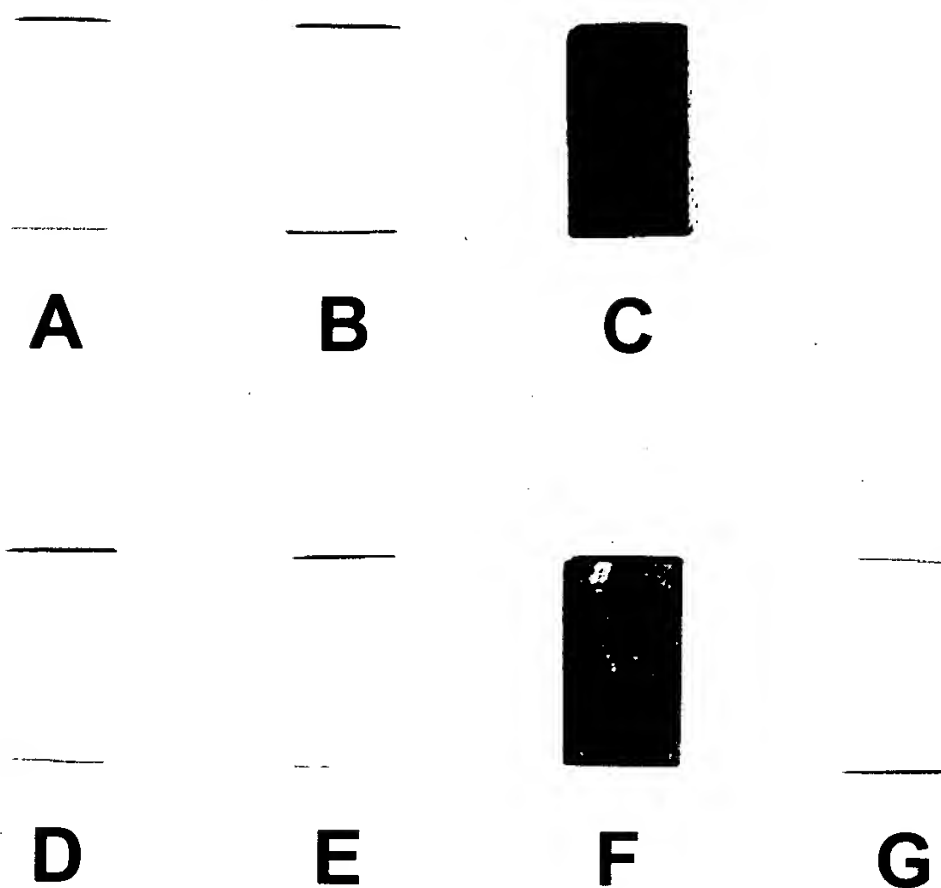


FIG. 33



BEST AVAILABLE COPY

FIG. 34

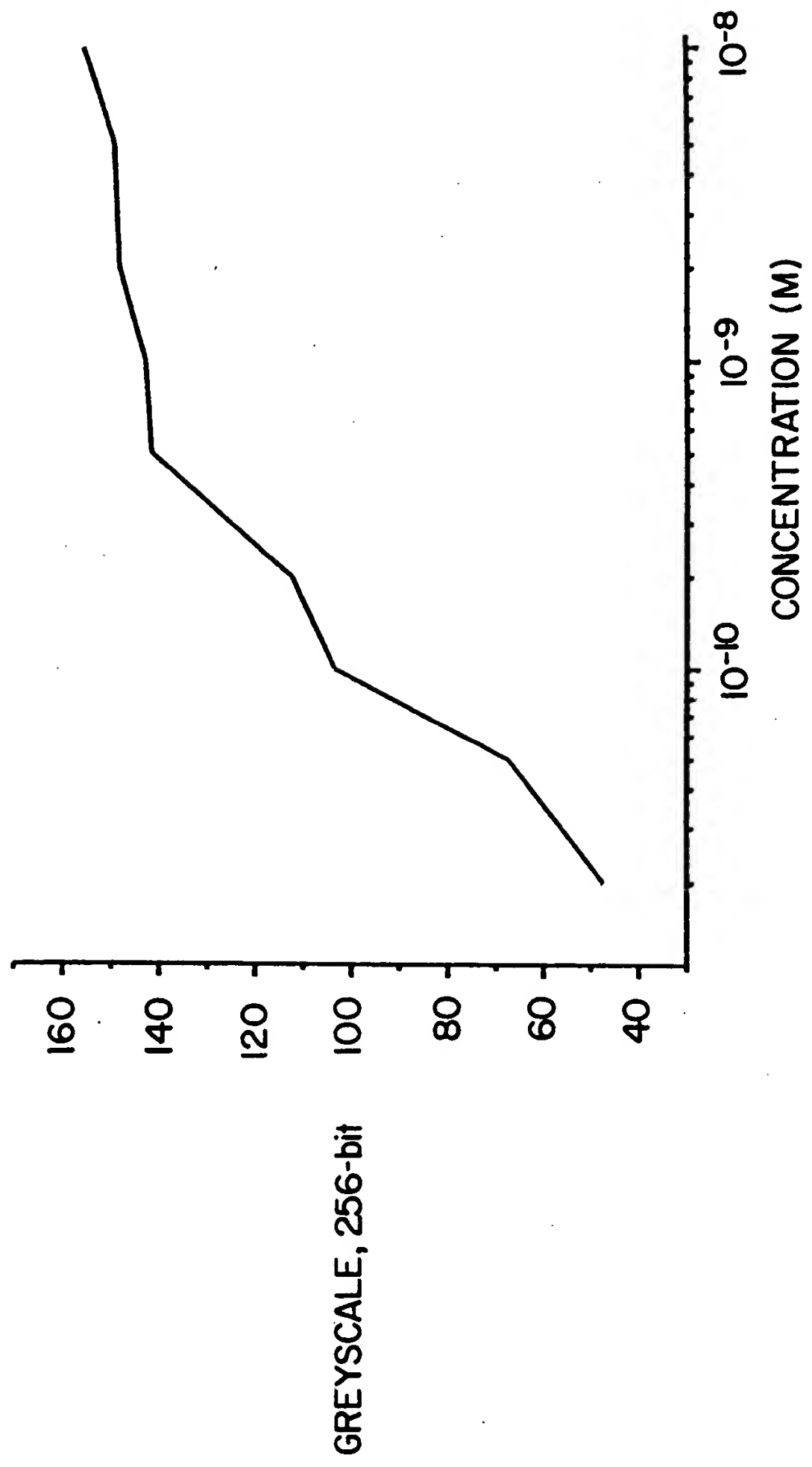


FIG.35A

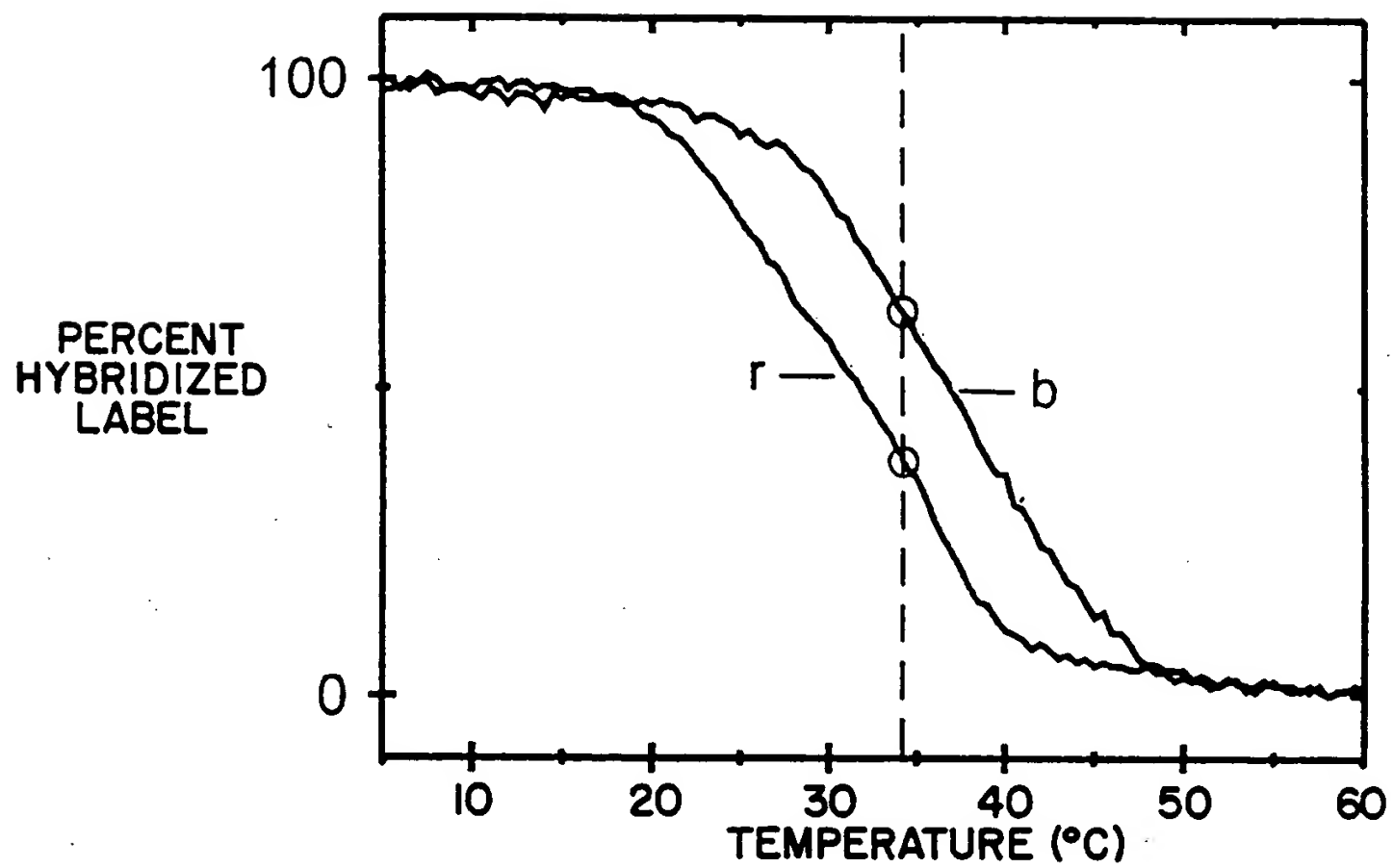


FIG.35B

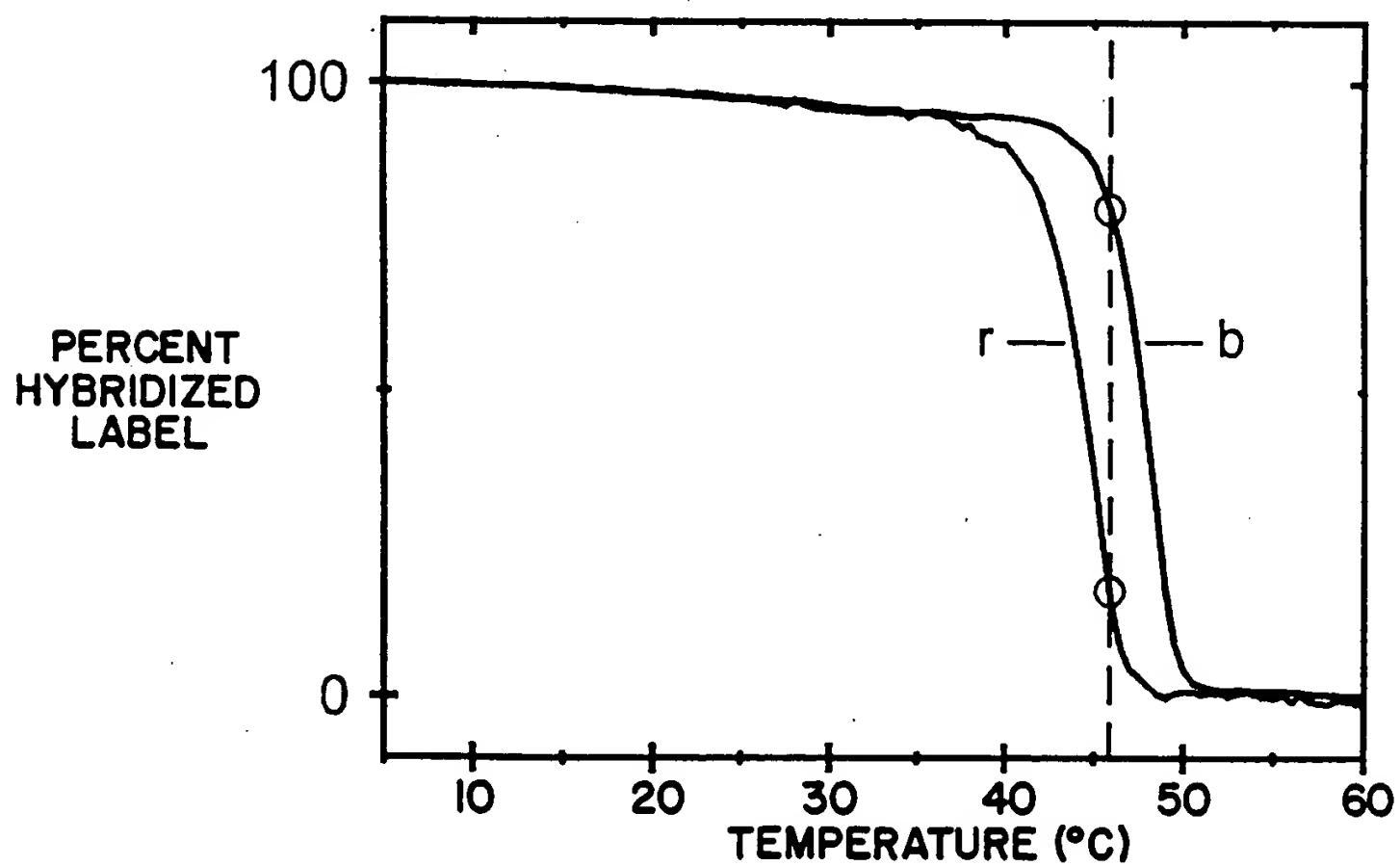


FIG. 36A



BEST AVAILABLE COPY

FIG. 36B



C A T G

FIG.37A

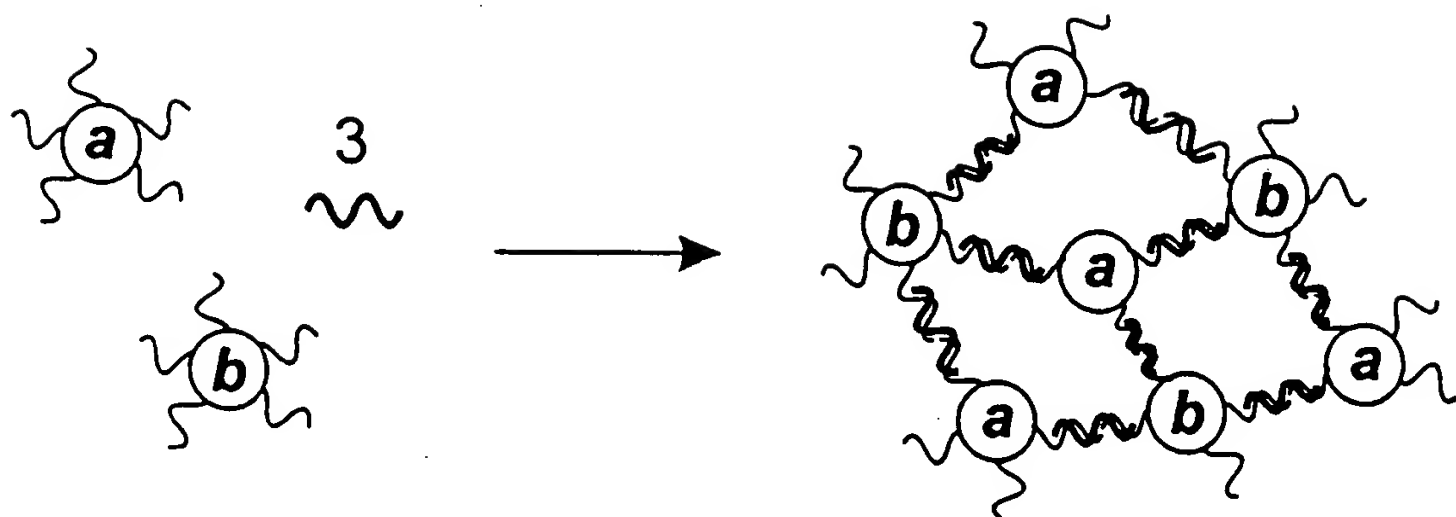


FIG.37B

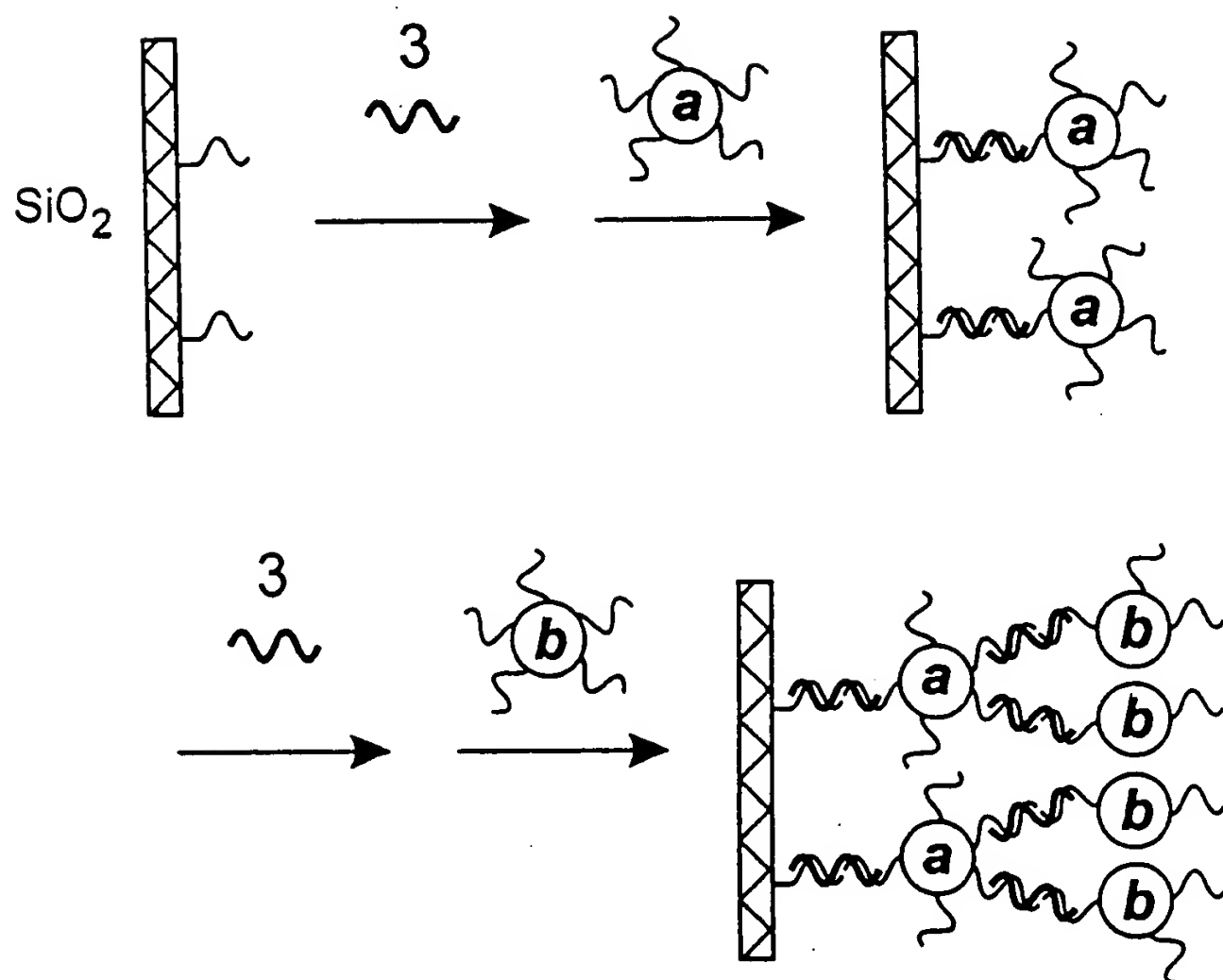


FIG.38A

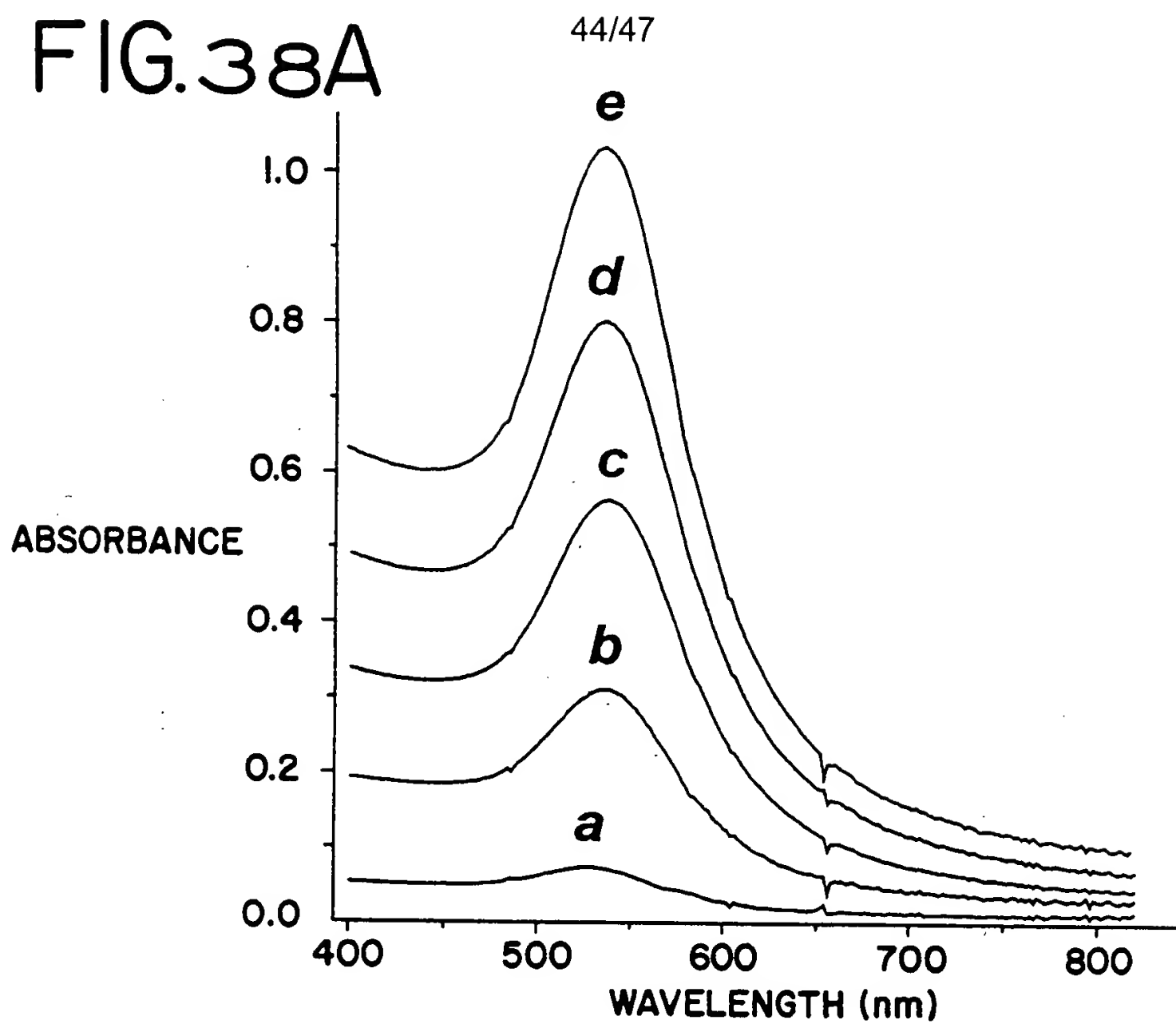


FIG.38B

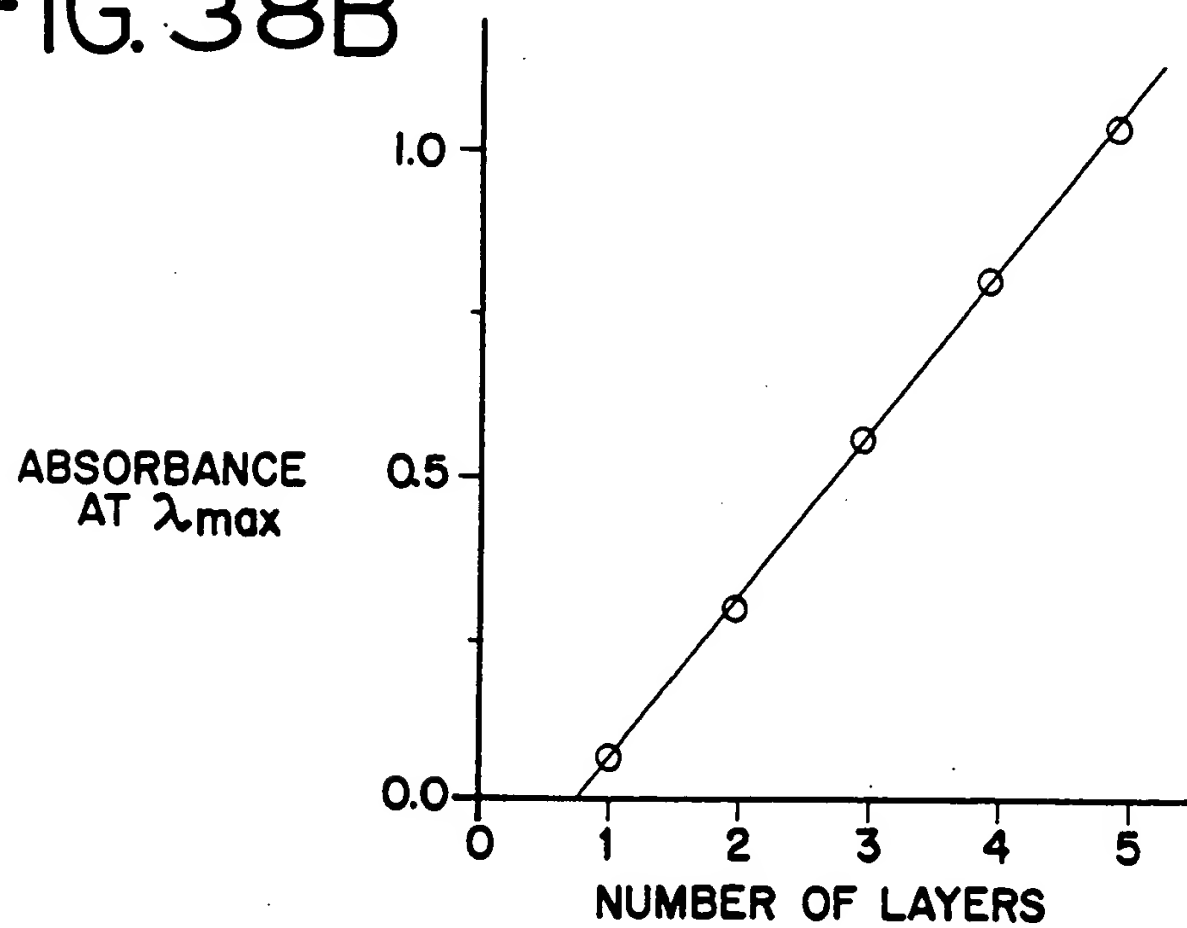


FIG. 39A

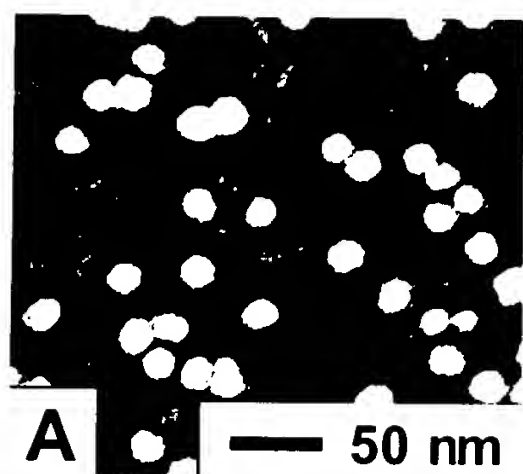
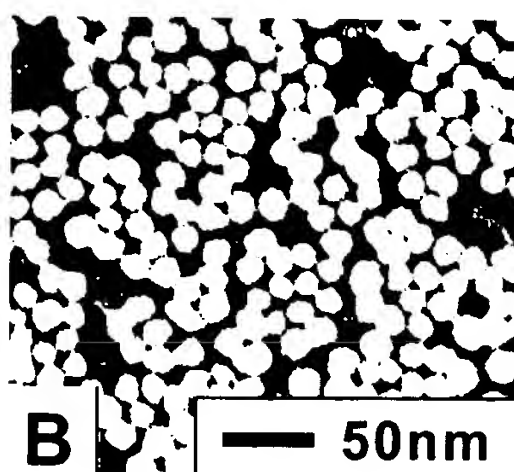


FIG. 39B



BEST AVAILABLE COPY

FIG.39C

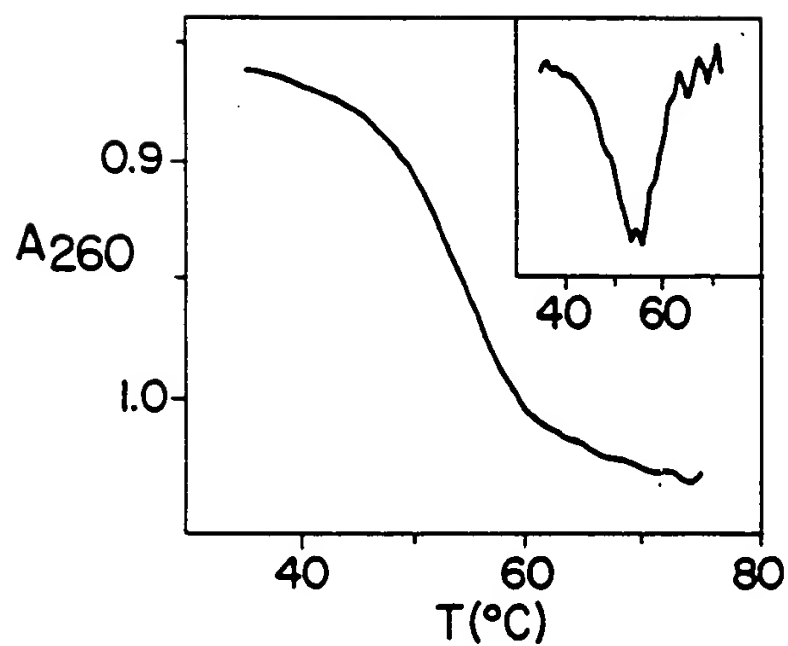


FIG.39D

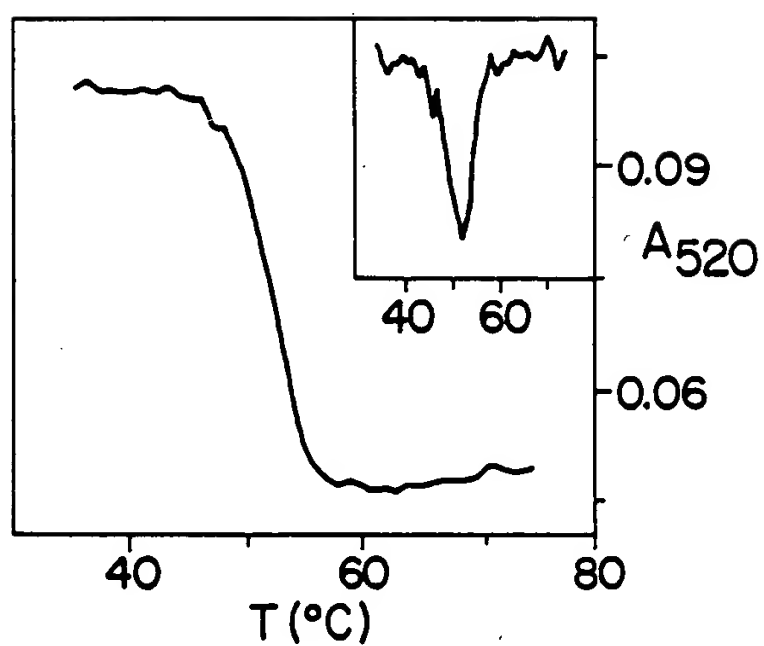


FIG.39E

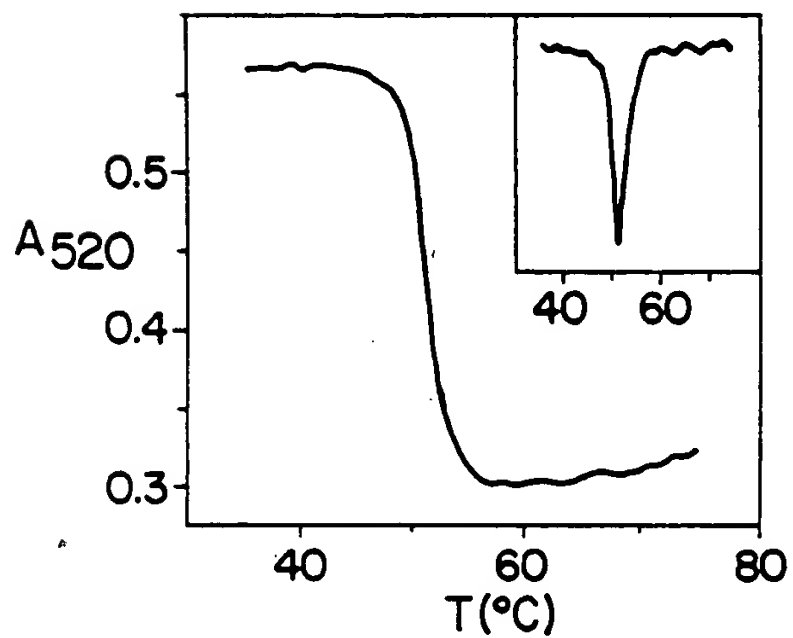


FIG.39F

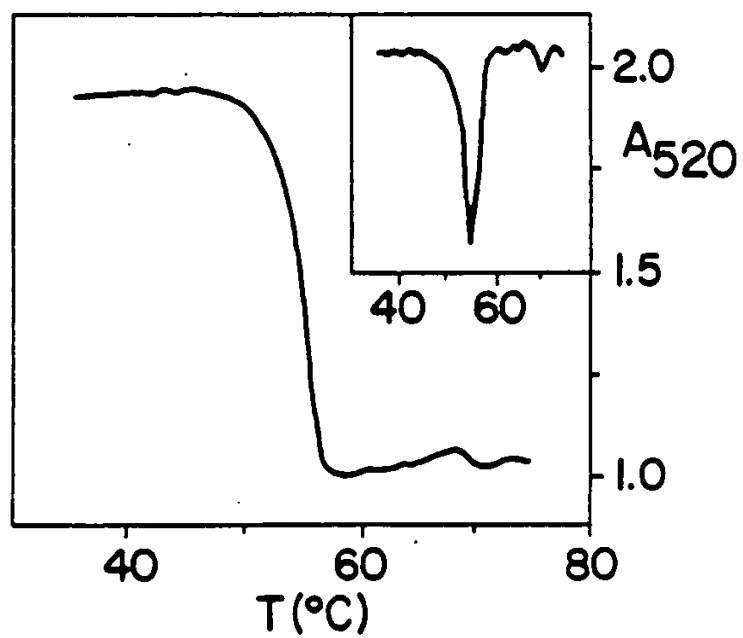


FIG. 40

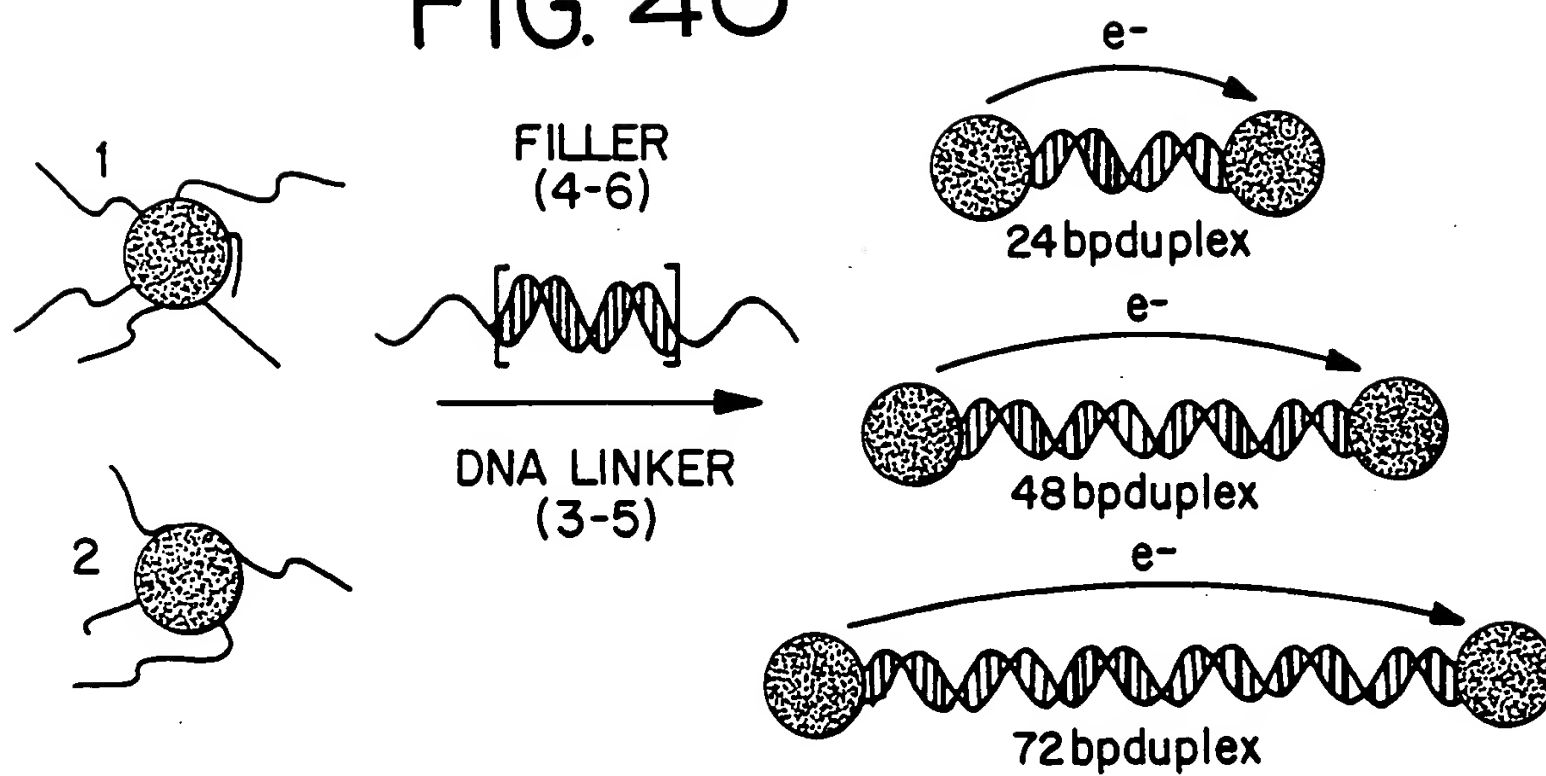


FIG. 41

